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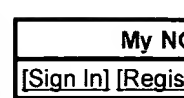
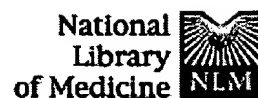




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<input type="checkbox"/>	L7	L6 AND osteoprotegerin binding protein	0
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<input type="checkbox"/>	L5	Boyle.IN.	3461
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☐ 1: [Gorczyński RM, Gorczyński CP, Gorczyński LY, Hu J, Lu J, Manuel J, Lee L.](#) [Related Articles, Links](#)

☐ Neutral buoyancy and sleep-deprived serum factors alter expression of cytokines regulating osteogenesis.  
Acta Astronaut. 2005 May-Jun;56(9-12):890-9.  
PMID: 15835039 [PubMed - indexed for MEDLINE]

☐ 2: [Voskaridou E, Terpos E.](#) [Related Articles, Links](#)

☐ Osteoprotegerin to soluble receptor activator of nuclear factor kappa-B ligand ratio is reduced in patients with thalassaemia-related osteoporosis who receive vitamin D3.  
Eur J Haematol. 2005 Apr;74(4):359-61. No abstract available.  
PMID: 15777350 [PubMed - indexed for MEDLINE]

☐ 3: [Moschen AR, Kaser A, Enrich B, Ludwiczek O, Gabriel M, Obrist P, Wolf AM, Tilg H.](#) [Related Articles, Links](#)

☐ The RANKL/OPG system is activated in inflammatory bowel disease and relates to the state of bone loss.  
Gut. 2005 Apr;54(4):479-87.  
PMID: 15753532 [PubMed - indexed for MEDLINE]

☐ 4: [Schneider HG, Sentry J.](#) [Related Articles, Links](#)

☐ Multiple myeloma.  
N Engl J Med. 2005 Feb 24;352(8):840-1; author reply 840-1. No abstract available.  
PMID: 15736296 [PubMed - indexed for MEDLINE]










☐ 5: [Tiranathanagul S, Yongchaitrakul T, Pattamapun K, Pavasant P.](#) [Related Articles, Links](#)

☐ Actinobacillus actinomycetemcomitans lipopolysaccharide activates matrix metalloproteinase-2 and increases receptor activator of nuclear factor-kappaB ligand expression in human periodontal ligament cells.  
J Periodontol. 2004 Dec;75(12):1647-54.  
PMID: 15732867 [PubMed - indexed for MEDLINE]

☐ 6: [Ferrari SL, Pierroz DD, Glatt V, Goddard DS, Bianchi EN, Lin FT, Manen D, Bouxsein ML.](#) [Related Articles, Links](#)

☐ Bone response to intermittent parathyroid hormone is altered in mice null for {beta}-Arrestin2.  
Endocrinology. 2005 Apr;146(4):1854-62. Epub 2005 Feb 10.  
PMID: 15705780 [PubMed - indexed for MEDLINE]

☐ 7: [Sato K.](#) [Related Articles, Links](#)

-  [Osteoclast-activating factors (OAF)]  
Nippon Rinsho. 2004 Dec;62 Suppl 12:228-31. Review. Japanese. No abstract available.  
PMID: 15658306 [PubMed - indexed for MEDLINE]
-  **8:** [Subramaniam M, Gorny G, Johnsen SA, Monroe DG, Evans GL, Fraser DG, Rickard DJ, Rasmussen K, van Deursen JM, Turner RT, Oursler MJ, Spelsberg TC.](#) [Related Articles, Links](#)  
TIEG1 null mouse-derived osteoblasts are defective in mineralization and in support of osteoclast differentiation in vitro.  
Mol Cell Biol. 2005 Feb;25(3):1191-9.  
PMID: 15657444 [PubMed - indexed for MEDLINE]
-  **9:** [Lukic IK, Grcevic D, Kovacic N, Katavic V, Ivcevic S, Kalajzic I, Marusic A.](#) [Related Articles, Links](#)  
Alteration of newly induced endochondral bone formation in adult mice without tumour necrosis factor receptor 1.  
Clin Exp Immunol. 2005 Feb;139(2):236-44.  
PMID: 15654822 [PubMed - indexed for MEDLINE]
-  **10:** [Cho ES, Yu JH, Kim MS, Yim M.](#) [Related Articles, Links](#)  
Rolipram, a phosphodiesterase 4 inhibitor, stimulates osteoclast formation by inducing TRANCE expression in mouse calvarial cells.  
Arch Pharm Res. 2004 Dec;27(12):1258-62. Erratum in: Arch Pharm Res. 2005 Jan;28(1):128.  
PMID: 15646801 [PubMed - indexed for MEDLINE]
-  **11:** [Oh KW, Rhee EJ, Lee WY, Kim SW, Baek KH, Kang MI, Yun EJ, Park CY, Ihm SH, Choi MG, Yoo HJ, Park SW.](#) [Related Articles, Links](#)  
Circulating osteoprotegerin and receptor activator of NF-kappaB ligand system are associated with bone metabolism in middle-aged males.  
Clin Endocrinol (Oxf). 2005 Jan;62(1):92-8.  
PMID: 15638876 [PubMed - indexed for MEDLINE]
-  **12:** [Mochizuki S, Kiyokawa A, Nagayama Y.](#) [Related Articles, Links](#)  
[Osteoclastogenesis Inhibitory Factor (OCIF) /Osteoprotegerin (OPG) as a new therapeutic agent for osteoporosis.]  
Clin Calcium. 2005 Jan;15(1):35-42. Review. Japanese.  
PMID: 15632471 [PubMed - indexed for MEDLINE]
-  **13:** [Grzegorzewska AE, Mlot M.](#) [Related Articles, Links](#)  
Ratio of cyclase activating and cyclase inactive parathormone (CAP/CIP) in dialysis patients: correlations with other markers of bone disease.  
Rocz Akad Med Bialymst. 2004;49:190-2.  
PMID: 15631341 [PubMed - indexed for MEDLINE]
-  **14:** [Zehnder AF, Kristiansen AG, Adams JC, Merchant SN, McKenna MJ.](#) [Related Articles, Links](#)  
Osteoprotegerin in the inner ear may inhibit bone remodeling in the otic capsule.  
Laryngoscope. 2005 Jan;115(1):172-7.  
PMID: 15630389 [PubMed - indexed for MEDLINE]
-  **15:** [Liu XH, Kirschenbaum A, Yao S, Levine AC.](#) [Related Articles, Links](#)  
Cross-talk between the interleukin-6 and prostaglandin E(2) signaling systems results in enhancement of osteoclastogenesis through effects on

the osteoprotegerin/receptor activator of nuclear factor- $\kappa$ B (RANK) ligand/RANK system.

Endocrinology. 2005 Apr;146(4):1991-8. Epub 2004 Dec 23.

PMID: 15618359 [PubMed - indexed for MEDLINE]

- ☐ **16:** [Belibasakis GN, Johansson A, Wang Y, Chen C, Kalfas S, Lerner UH.](#) [Related Articles, Links](#)



The cytolethal distending toxin induces receptor activator of NF- $\kappa$ B ligand expression in human gingival fibroblasts and periodontal ligament cells.

Infect Immun. 2005 Jan;73(1):342-51.

PMID: 15618171 [PubMed - indexed for MEDLINE]

- ☐ **17:** [Sasaki N, Kusano E, Takahashi H, Ando Y, Yano K, Tsuda E, Asano Y.](#) [Related Articles, Links](#)



Vitamin K2 inhibits glucocorticoid-induced bone loss partly by preventing the reduction of osteoprotegerin (OPG).

J Bone Miner Metab. 2005;23(1):41-7.

PMID: 15616893 [PubMed - indexed for MEDLINE]

- ☐ **18:** [Sakai A, Mori T, Sakuma-Zenke M, Takeda T, Nakai K, Katae Y, Hirasawa H, Nakamura T.](#) [Related Articles, Links](#)



Osteoclast development in immobilized bone is suppressed by parathyroidectomy in mice.

J Bone Miner Metab. 2005;23(1):8-14.

PMID: 15616888 [PubMed - indexed for MEDLINE]

- ☐ **19:** [Clohisey DR, Mantyh PW.](#) [Related Articles, Links](#)



Bone cancer pain and the role of RANKL/OPG.

J Musculoskelet Neuronal Interact. 2004 Sep;4(3):293-300. Review.

PMID: 15615497 [PubMed - indexed for MEDLINE]

- ☐ **20:** [Ritchlin CT, Schwarz EM, O'Keefe RJ, Looney RJ.](#) [Related Articles, Links](#)



RANK, RANKL and OPG in inflammatory arthritis and periprosthetic osteolysis.

J Musculoskelet Neuronal Interact. 2004 Sep;4(3):276-84. Review.

PMID: 15615495 [PubMed - indexed for MEDLINE]

- ☐ **21:** [Hofbauer LC, Kuhne CA, Viereck V.](#) [Related Articles, Links](#)



The OPG/RANKL/RANK system in metabolic bone diseases.

J Musculoskelet Neuronal Interact. 2004 Sep;4(3):268-75. Review.

PMID: 15615494 [PubMed - indexed for MEDLINE]

- ☐ **22:** [Whyte MP, Mumm S.](#) [Related Articles, Links](#)



Heritable disorders of the RANKL/OPG/RANK signaling pathway.

J Musculoskelet Neuronal Interact. 2004 Sep;4(3):254-67. Review.

PMID: 15615493 [PubMed - indexed for MEDLINE]

- ☐ **23:** [Chondrogianni N, de C M Simoes D, Franceschi C, Gonos ES.](#) [Related Articles, Links](#)












Cloning of differentially expressed genes in skin fibroblasts from centenarians.









Biogerontology. 2004;5(6):401-9.










PMID: 15609104 [PubMed - indexed for MEDLINE]

- ☐ **24:** [Lee CK, Lee EY, Chung SM, Mun SH, Yoo B, Moon HB.](#) [Related Articles, Links](#)




-  Effects of disease-modifying antirheumatic drugs and antiinflammatory cytokines on human osteoclastogenesis through interaction with receptor activator of nuclear factor kappaB, osteoprotegerin, and receptor activator of nuclear factor kappaB ligand.  
Arthritis Rheum. 2004 Dec;50(12):3831-43.  
PMID: 15593184 [PubMed - indexed for MEDLINE]
- ☐ **25:** [Wang L, Liu S, Quarles LD, Spurney RF.](#) Related Articles, Links
-  Targeted overexpression of G protein-coupled receptor kinase-2 in osteoblasts promotes bone loss.  
Am J Physiol Endocrinol Metab. 2005 Apr;288(4):E826-34. Epub 2004 Dec 7.  
PMID: 15585587 [PubMed - indexed for MEDLINE]
- ☐ **26:** [Ogata H, Yamamoto M, Taguchi S.](#) Related Articles, Links
-  [Prophylaxis and treatment of adynamic bone]  
Clin Calcium. 2004 Sep;14(9):34-9. Review. Japanese.  
PMID: 15577107 [PubMed - indexed for MEDLINE]
- ☐ **27:** [Shimizu M, Tamura T.](#) Related Articles, Links
-  [Regulation of bone mineralization by parathyroid hormone]  
Clin Calcium. 2004 Jun;14(6):70-5. Review. Japanese.  
PMID: 15577058 [PubMed - indexed for MEDLINE]
- ☐ **28:** [Jono S.](#) Related Articles, Links
-  [Risk factors of atherosclerosis in end-stage renal disease patients]  
Clin Calcium. 2004 Jan;14(1):21-6. Review. Japanese.  
PMID: 15576949 [PubMed - indexed for MEDLINE]
- ☐ **29:** [Herrmann M, Herrmann W.](#) Related Articles, Links
-  The assessment of bone metabolism in female elite endurance athletes by biochemical bone markers.  
Clin Chem Lab Med. 2004;42(12):1384-9.  
PMID: 15576300 [PubMed - indexed for MEDLINE]
- ☐ **30:** [Oh ES, Rhee EJ, Oh KW, Lee WY, Baek KH, Yoon KH, Kang MI, Yun EJ, Park CY, Choi MG, Yoo HJ, Park SW.](#) Related Articles, Links
-  Circulating osteoprotegerin levels are associated with age, waist-to-hip ratio, serum total cholesterol, and low-density lipoprotein cholesterol levels in healthy Korean women.  
Metabolism. 2005 Jan;54(1):49-54.  
PMID: 15562379 [PubMed - indexed for MEDLINE]
- ☐ **31:** [Mori T, Oguro A, Ohtsu T, Nakamura Y.](#) Related Articles, Links
-  RNA aptamers selected against the receptor activator of NF-kappaB acquire general affinity to proteins of the tumor necrosis factor receptor family.  
Nucleic Acids Res. 2004 Nov 23;32(20):6120-8. Print 2004.  
PMID: 15562003 [PubMed - indexed for MEDLINE]
- ☐ **32:** [Theoleyre S, Wittrant Y, Tat SK, Fortun Y, Redini F, Heymann D.](#) Related Articles, Links
-  The molecular triad OPG/RANK/RANKL: involvement in the orchestration of pathophysiological bone remodeling.  
Cytokine Growth Factor Rev. 2004 Dec;15(6):457-75. Review.  
PMID: 15561602 [PubMed - indexed for MEDLINE]

- ☐ **33:** [Zhang X, Aubin JE, Kim TH, Payne U, Chiu B, Inman RD.](#) Related Articles, Links  
 Synovial fibroblasts infected with *Salmonella enterica* serovar Typhimurium mediate osteoclast differentiation and activation.  
Infect Immun. 2004 Dec;72(12):7183-9.  
PMID: 15557643 [PubMed - indexed for MEDLINE]
- ☐ **34:** [Kanzaki H, Chiba M, Takahashi I, Haruyama N, Nishimura M, Mitani H.](#) Related Articles, Links  
 Local OPG gene transfer to periodontal tissue inhibits orthodontic tooth movement.  
J Dent Res. 2004 Dec;83(12):920-5.  
PMID: 15557398 [PubMed - indexed for MEDLINE]
- ☐ **35:** [Franchimont N, Reenaers C, Lambert C, Belaiche J, Bours V, Malaise M, Delvenne P, Louis E.](#) Related Articles, Links  
 Increased expression of receptor activator of NF-kappaB ligand (RANKL), its receptor RANK and its decoy receptor osteoprotegerin in the colon of Crohn's disease patients.  
Clin Exp Immunol. 2004 Dec;138(3):491-8.  
PMID: 15544627 [PubMed - indexed for MEDLINE]
- ☐ **36:** [Turner A, Chen TC, Barber TW, Malabanan AO, Holick MF, Tangpricha V.](#) Related Articles, Links  
 Testosterone increases bone mineral density in female-to-male transsexuals: a case series of 15 subjects.  
Clin Endocrinol (Oxf). 2004 Nov;61(5):560-6.  
PMID: 15521957 [PubMed - indexed for MEDLINE]
- ☐ **37:** [Vidal K, Serrant P, Schlosser B, van den Broek P, Lorget F, Donnet-Hughes A.](#) Related Articles, Links  
 Osteoprotegerin production by human intestinal epithelial cells: a potential regulator of mucosal immune responses.  
Am J Physiol Gastrointest Liver Physiol. 2004 Oct;287(4):G836-44. No abstract available.  
PMID: 15521102 [PubMed - indexed for MEDLINE]
- ☐ **38:** [Ueland T.](#) Related Articles, Links  
 Bone metabolism in relation to alterations in systemic growth hormone.  
Growth Horm IGF Res. 2004 Dec;14(6):404-17. Review.  
PMID: 15519248 [PubMed - indexed for MEDLINE]
- ☐ **39:** [Boabaid F, Berry JE, Koh AJ, Somerman MJ, McCauley LK.](#) Related Articles, Links  
 The role of parathyroid hormone-related protein in the regulation of osteoclastogenesis by cementoblasts.  
J Periodontol. 2004 Sep;75(9):1247-54.  
PMID: 15515341 [PubMed - indexed for MEDLINE]
- ☐ **40:** [Dai SM, Nishioka K, Yudoh K.](#) Related Articles, Links  
 Interleukin (IL) 18 stimulates osteoclast formation through synovial T cells in rheumatoid arthritis: comparison with IL1 beta and tumour necrosis factor alpha.  
Ann Rheum Dis. 2004 Nov;63(11):1379-86.  
PMID: 15479886 [PubMed - indexed for MEDLINE]
- ☐ **41:** [Yip KH, Zheng MH, Feng HT, Steer JH, Joyce DA, Xu J.](#) Related Articles, Links


-  Sesquiterpene lactone parthenolide blocks lipopolysaccharide-induced osteolysis through the suppression of NF-kappaB activity.  
J Bone Miner Res. 2004 Nov;19(11):1905-16. Epub 2004 Sep 27.  
PMID: 15476591 [PubMed - indexed for MEDLINE]
- ☐ **42:** [Notoya M, Otsuka E, Yamaguchi A, Hagiwara H.](#) [Related Articles, Links](#)
-  Runx-2 is not essential for the vitamin D-regulated expression of RANKL and osteoprotegerin in osteoblastic cells.  
Biochem Biophys Res Commun. 2004 Nov 12;324(2):655-60.  
PMID: 15474477 [PubMed - indexed for MEDLINE]
- ☐ **43:** [Wang BL, Qiu MC, Guo G, Liang DC, Zhang JY.](#) [Related Articles, Links](#)
-  Expression, purification and bioactivity characterization of extracellular domain of murine osteoprotegerin ligand.  
Yi Chuan Xue Bao. 2004 Jul;31(7):675-81.  
PMID: 15473318 [PubMed - indexed for MEDLINE]
- ☐ **44:** [Kitaura H, Sands MS, Aya K, Zhou P, Hirayama T, Uthgenannt B, Wei S, Takeshita S, Novack DV, Silva MJ, Abu-Amer Y, Ross FP, Teitelbaum SL.](#) [Related Articles, Links](#)
-  Marrow stromal cells and osteoclast precursors differentially contribute to TNF-alpha-induced osteoclastogenesis in vivo.  
J Immunol. 2004 Oct 15;173(8):4838-46.  
PMID: 15470024 [PubMed - indexed for MEDLINE]
- ☐ **45:** [Boabaid F, Gibson CW, Kuehl MA, Berry JE, Snead ML, Nociti FH Jr, Katchburian E, Somerman MJ.](#) [Related Articles, Links](#)
-  Leucine-rich amelogenin peptide: a candidate signaling molecule during cementogenesis.  
J Periodontol. 2004 Aug;75(8):1126-36.  
PMID: 15455742 [PubMed - indexed for MEDLINE]
- ☐ **46:** [Smith MD.](#) [Related Articles, Links](#)
-  Comment on review on T cells in bone biology.  
Rheumatology (Oxford). 2004 Oct;43(10):1314; author reply 1314-5. No abstract available.  
PMID: 15448222 [PubMed - indexed for MEDLINE]
- ☐ **47:** [Burton DW, Geller J, Yang M, Jiang P, Barken I, Hastings RH, Hoffman RM, Deftos LJ.](#) [Related Articles, Links](#)
-  Monitoring of skeletal progression of prostate cancer by GFP imaging, X-ray, and serum OPG and PTHrP.  
Prostate. 2005 Feb 15;62(3):275-81.  
PMID: 15389781 [PubMed - indexed for MEDLINE]
- ☐ **48:** [Tian QX, Huang GY.](#) [Related Articles, Links](#)
-  [Effects of 1,25-dihydroxyvitamin D3 on the expressions of osteoprotegerin and receptor activator of NF-kappaB ligand in mouse osteoblasts]  
Zhongguo Yi Xue Ke Xue Yuan Xue Bao. 2004 Aug;26(4):418-22. Chinese.  
PMID: 15379268 [PubMed - indexed for MEDLINE]
- ☐ **49:** [Miyazaki T, Matsunaga T, Miyazaki S, Hokari S, Komoda T.](#) [Related Articles, Links](#)
-  Changes in receptor activator of nuclear factor-kappaB, and its ligand, osteoprotegerin, bone-type alkaline phosphatase, and tartrate-resistant

acid phosphatase in ovariectomized rats.  
J Cell Biochem. 2004 Oct 15;93(3):503-12.  
PMID: 15372622 [PubMed - indexed for MEDLINE]


- ☐ **50:** [Wittrant Y, Theoleyre S, Chipoy C, Padrines M, Blanchard F, Heymann D, Redini F.](#) Related Articles, Links

 RANKL/RANK/OPG: new therapeutic targets in bone tumours and associated osteolysis.  
Biochim Biophys Acta. 2004 Sep 20;1704(2):49-57. Review.  
PMID: 15363860 [PubMed - indexed for MEDLINE]


- ☐ **51:** [Roux S, Mariette X.](#) Related Articles, Links

 The high rate of bone resorption in multiple myeloma is due to RANK (receptor activator of nuclear factor-kappaB) and RANK Ligand expression.  
Leuk Lymphoma. 2004 Jun;45(6):1111-8. Review.  
PMID: 15359989 [PubMed - indexed for MEDLINE]


- ☐ **52:** [Nyambo R, Cross N, Lippitt J, Holen I, Bryden G, Hamdy FC, Eaton CL.](#) Related Articles, Links

 Human bone marrow stromal cells protect prostate cancer cells from TRAIL-induced apoptosis.  
J Bone Miner Res. 2004 Oct;19(10):1712-21. Epub 2004 Jul 7.  
PMID: 15355567 [PubMed - indexed for MEDLINE]


- ☐ **53:** [Wang L, Quarles LD, Spurney RF.](#) Related Articles, Links

 Unmasking the osteoinductive effects of a G-protein-coupled receptor (GPCR) kinase (GRK) inhibitor by treatment with PTH(1-34).  
J Bone Miner Res. 2004 Oct;19(10):1661-70. Epub 2004 Jul 14.  
PMID: 15355561 [PubMed - indexed for MEDLINE]


- ☐ **54:** [Kishimoto Y, Fukumoto S, Nishihara S, Mizumura H, Hirai K, Teshima R.](#) Related Articles, Links

 Gene expression relevant to osteoclastogenesis in the synovium and bone marrow of mature rats with collagen-induced arthritis.  
Rheumatology (Oxford). 2004 Dec;43(12):1496-503. Epub 2004 Sep 7.  
PMID: 15353610 [PubMed - indexed for MEDLINE]


- ☐ **55:** [Sato N, Takahashi N, Suda K, Nakamura M, Yamaki M, Ninomiya T, Kobayashi Y, Takada H, Shibata K, Yamamoto M, Takeda K, Akira S, Noguchi T, Udagawa N.](#) Related Articles, Links

 MyD88 but not TRIF is essential for osteoclastogenesis induced by lipopolysaccharide, diacyl lipopeptide, and IL-1alpha.  
J Exp Med. 2004 Sep 6;200(5):601-11.  
PMID: 15353553 [PubMed - indexed for MEDLINE]

- ☐ **56:** [Ono Y, Inoue M, Mizukami H, Ogihara Y.](#) Related Articles, Links

 Suppressive effect of Kanzo-bushi-to, a Kampo medicine, on collagen-induced arthritis.  
Biol Pharm Bull. 2004 Sep;27(9):1406-13.  
PMID: 15340228 [PubMed - indexed for MEDLINE]

- ☐ **57:** [Wada N, Maeda H, Yoshimine Y, Akamine A.](#) Related Articles, Links

 Lipopolysaccharide stimulates expression of osteoprotegerin and receptor activator of NF-kappa B ligand in periodontal ligament fibroblasts

through the induction of interleukin-1 beta and tumor necrosis factor-alpha.

Bone. 2004 Sep;35(3):629-35.

PMID: 15336598 [PubMed - indexed for MEDLINE]

☐ **58:** [Nakano K, Okada Y, Saito K, Tanaka Y.](#)

[Related Articles, Links](#)



Induction of RANKL expression and osteoclast maturation by the binding of fibroblast growth factor 2 to heparan sulfate proteoglycan on rheumatoid synovial fibroblasts.

Arthritis Rheum. 2004 Aug;50(8):2450-8.

PMID: 15334457 [PubMed - indexed for MEDLINE]

☐ **59:** [Mueller RJ, Richards RG.](#)

[Related Articles, Links](#)



Immunohistological identification of receptor activator of NF-kappaB ligand (RANKL) in human, ovine and bovine bone tissues.

J Mater Sci Mater Med. 2004 Apr;15(4):367-72.

PMID: 15332601 [PubMed - indexed for MEDLINE]

☐ **60:** [Politou M, Terpos E, Anagnostopoulos A, Szydlo R, Laffan M,](#)

[Related Articles, Links](#)

[Layton M, Apperley JF, Dimopoulos MA, Rahemtulla A.](#)



Role of receptor activator of nuclear factor-kappa B ligand (RANKL), osteoprotegerin and macrophage protein 1-alpha (MIP-1a) in monoclonal gammopathy of undetermined significance (MGUS).

Br J Haematol. 2004 Sep;126(5):686-9.

PMID: 15327520 [PubMed - indexed for MEDLINE]

☐ **61:** [Jeffcoate W.](#)

[Related Articles, Links](#)



Vascular calcification and osteolysis in diabetic neuropathy-is RANK-L the missing link?

Diabetologia. 2004 Sep;47(9):1488-92. Epub 2004 Aug 21. Review.

PMID: 15322748 [PubMed - indexed for MEDLINE]

☐ **62:** [Ishida M, Amano S.](#)

[Related Articles, Links](#)



Osteocalcin fragment in bone matrix enhances osteoclast maturation at a late stage of osteoclast differentiation.

J Bone Miner Metab. 2004;22(5):415-29.

PMID: 15316862 [PubMed - indexed for MEDLINE]

☐ **63:** [Jacobson A, Johansson S, Branting M, Melhus H.](#)

[Related Articles, Links](#)



Vitamin A differentially regulates RANKL and OPG expression in human osteoblasts.

Biochem Biophys Res Commun. 2004 Sep 10;322(1):162-7.

PMID: 15313187 [PubMed - indexed for MEDLINE]

☐ **64:** [Liu JM, Zhao HY, Ning G, Zhao YJ, Chen Y, Zhang LZ, Xu MY, Chen JL.](#)

[Related Articles, Links](#)



[The relationships between changes of serum osteoprotegerin, nuclear factor-kappa B ligand receptor activator, and age, menopause, bone biochemical markers and bone mineral densities in women aged 20 - 75]









Zhonghua Nei Ke Za Zhi. 2004 Jun;43(6):447-50. Chinese.










PMID: 15312444 [PubMed - indexed for MEDLINE]

☐ **65:** [Giuliani N, Colla S, Rizzoli V.](#)

[Related Articles, Links](#)

New insight in the mechanism of osteoclast activation and formation in

-  multiple myeloma: focus on the receptor activator of NF-kappaB ligand (RANKL).  
Exp Hematol. 2004 Aug;32(8):685-91. Review.  
PMID: 15308315 [PubMed - indexed for MEDLINE]
- ☐ **66:** Granchi D, Amato I, Battistelli L, Avnet S, Capaccioli S, Papucci L, Donnini M, Pellacani A, Brandi ML, Giunti A, Baldini N. Related Articles, Links  
 In vitro blockade of receptor activator of nuclear factor-kappaB ligand prevents osteoclastogenesis induced by neuroblastoma cells.  
Int J Cancer. 2004 Oct 10;111(6):829-38.  
PMID: 15300794 [PubMed - indexed for MEDLINE]
- ☐ **67:** Lossdorfer S, Schwartz Z, Wang L, Lohmann CH, Turner JD, Wieland M, Cochran DL, Boyan BD. Related Articles, Links  
 Microrough implant surface topographies increase osteogenesis by reducing osteoclast formation and activity.  
J Biomed Mater Res A. 2004 Sep 1;70(3):361-9.  
PMID: 15293309 [PubMed - indexed for MEDLINE]
- ☐ **68:** Schoppet M, Al-Fakhri N, Franke FE, Katz N, Barth PJ, Maisch B, Preissner KT, Hofbauer LC. Related Articles, Links  
 Localization of osteoprotegerin, tumor necrosis factor-related apoptosis-inducing ligand, and receptor activator of nuclear factor-kappaB ligand in Monckeberg's sclerosis and atherosclerosis.  
J Clin Endocrinol Metab. 2004 Aug;89(8):4104-12.  
PMID: 15292354 [PubMed - indexed for MEDLINE]
- ☐ **69:** Vanderborgh A, Linsen L, Thewissen M, Geusens P, Raus J, Stinissen P. Related Articles, Links  
 Osteoprotegerin and receptor activator of nuclear factor-kappaB ligand mRNA expression in patients with rheumatoid arthritis and healthy controls.  
J Rheumatol. 2004 Aug;31(8):1483-90.  
PMID: 15290725 [PubMed - indexed for MEDLINE]
- ☐ **70:** Farach-Carson MC, Bergh JJ, Xu Y. Related Articles, Links  
 Integrating rapid responses to 1,25-dihydroxyvitamin D3 with transcriptional changes in osteoblasts: Ca2+ regulated pathways to the nucleus.  
Steroids. 2004 Aug;69(8-9):543-7.  
PMID: 15288767 [PubMed - indexed for MEDLINE]
- ☐ **71:** Kanatani M, Sugimoto T, Sowa H, Kobayashi T, Kanzawa M, Chihara K. Related Articles, Links  
 Thyroid hormone stimulates osteoclast differentiation by a mechanism independent of RANKL-RANK interaction.  
J Cell Physiol. 2004 Oct;201(1):17-25.  
PMID: 15281085 [PubMed - indexed for MEDLINE]
- ☐ **72:** Hofbauer LC, Schoppet M. Related Articles, Links  
 Clinical implications of the osteoprotegerin/RANKL/RANK system for bone and vascular diseases.  
JAMA. 2004 Jul 28;292(4):490-5. Review.  
PMID: 15280347 [PubMed - indexed for MEDLINE]
- ☐ **73:** Hashimoto T, Abe M, Matsumoto T. Related Articles, Links

-  [Biochemical markers in bone metastasis]  
Gan To Kagaku Ryoho. 2004 Jul;31(7):1027-33. Review. Japanese.  
PMID: 15272580 [PubMed - indexed for MEDLINE]
- ☐ **74:** Nociti FH Jr, Foster BL, Barros SP, Darveau RP, Somerman MJ. Related Articles, Links  
 Cementoblast gene expression is regulated by Porphyromonas gingivalis lipopolysaccharide partially via toll-like receptor-4/MD-2.  
J Dent Res. 2004 Aug;83(8):602-7.  
PMID: 15271967 [PubMed - indexed for MEDLINE]
- ☐ **75:** Tomek S, Horak P, Pribill I, Haller G, Rossler M, Zielinski CC, Pils D, Krainer M. Related Articles, Links  
 Resistance to TRAIL-induced apoptosis in ovarian cancer cell lines is overcome by co-treatment with cytotoxic drugs.  
Gynecol Oncol. 2004 Jul;94(1):107-14.  
PMID: 15262127 [PubMed - indexed for MEDLINE]
- ☐ **76:** Baumann B, Rader CP, Seufert J, Noth U, Rolf O, Eulert J, Jakob E. Related Articles, Links  
 Effects of polyethylene and TiAlV wear particles on expression of RANK, RANKL and OPG mRNA.  
Acta Orthop Scand. 2004 Jun;75(3):295-302.  
PMID: 15260421 [PubMed - indexed for MEDLINE]
- ☐ **77:** Garlet GP, Martins W Jr, Fonseca BA, Ferreira BR, Silva JS. Related Articles, Links  
 Matrix metalloproteinases, their physiological inhibitors and osteoclast factors are differentially regulated by the cytokine profile in human periodontal disease.  
J Clin Periodontol. 2004 Aug;31(8):671-9.  
PMID: 15257746 [PubMed - indexed for MEDLINE]
- ☐ **78:** Varga F, Spitzer S, Klaushofer K. Related Articles, Links  
 Triiodothyronine (T3) and 1,25-dihydroxyvitamin D3 (1,25D3) inversely regulate OPG gene expression in dependence of the osteoblastic phenotype.  
Calcif Tissue Int. 2004 Apr;74(4):382-7.  
PMID: 15255076 [PubMed - indexed for MEDLINE]
- ☐ **79:** De Leenheer E, Mueller GS, Vanderkerken K, Croucher PJ. Related Articles, Links  
 Evidence of a role for RANKL in the development of myeloma bone disease.  
Curr Opin Pharmacol. 2004 Aug;4(4):340-6. Review.  
PMID: 15251126 [PubMed - indexed for MEDLINE]
- ☐ **80:** Mosheimer BA, Kaneider NC, Feistritz C, Sturm DH, Wiedermann CJ. Related Articles, Links  
 Expression and function of RANK in human monocyte chemotaxis.  
Arthritis Rheum. 2004 Jul;50(7):2309-16.  
PMID: 15248232 [PubMed - indexed for MEDLINE]
- ☐ **81:** Buxton EC, Yao W, Lane NE. Related Articles, Links  
 Changes in serum receptor activator of nuclear factor-kappaB ligand, osteoprotegerin, and interleukin-6 levels in patients with glucocorticoid-induced osteoporosis treated with human parathyroid hormone (1-34).  
J Clin Endocrinol Metab. 2004 Jul;89(7):3332-6.

PMID: 15240611 [PubMed - indexed for MEDLINE]

- ☐ **82:** [Bord S, Frith E, Ireland DC, Scott MA, Craig JJ, Compston JE.](#) Related Articles, Links



Synthesis of osteoprotegerin and RANKL by megakaryocytes is modulated by oestrogen.

Br J Haematol. 2004 Jul;126(2):244-51.

PMID: 15238146 [PubMed - indexed for MEDLINE]

- ☐ **83:** [Lai FP, Cole-Sinclair M, Cheng WJ, Quinn JM, Gillespie MT, Sentry JW, Schneider HG.](#) Related Articles, Links



Myeloma cells can directly contribute to the pool of RANKL in bone bypassing the classic stromal and osteoblast pathway of osteoclast stimulation.

Br J Haematol. 2004 Jul;126(2):192-201.

PMID: 15238139 [PubMed - indexed for MEDLINE]

- ☐ **84:** [Wilson SE, Mohan RR, Netto M, Perez V, Possin D, Huang J, Kwon R, Alekseev A, Rodriguez-Perez JP.](#) Related Articles, Links



RANK, RANKL, OPG, and M-CSF expression in stromal cells during corneal wound healing.

Invest Ophthalmol Vis Sci. 2004 Jul;45(7):2201-11.

PMID: 15223796 [PubMed - indexed for MEDLINE]

- ☐ **85:** [Terpos E, Politou M, Szydlo R, Nadal E, Avery S, Olavarria E, Kanfer E, Goldman JM, Apperley JF, Rahemtulla A.](#) Related Articles, Links



Autologous stem cell transplantation normalizes abnormal bone remodeling and sRANKL/osteoprotegerin ratio in patients with multiple myeloma.

Leukemia. 2004 Aug;18(8):1420-6.

PMID: 15215875 [PubMed - indexed for MEDLINE]

- ☐ **86:** [Melhus H.](#) Related Articles, Links



Soluble RANKL and risk of nontraumatic fracture.

JAMA. 2004 Jun 9;291(22):2703; author reply 2703-4. No abstract available.

PMID: 15187049 [PubMed - indexed for MEDLINE]

- ☐ **87:** [Coetzee M, Kruger MC.](#) Related Articles, Links



Osteoprotegerin-receptor activator of nuclear factor-kappaB ligand ratio: a new approach to osteoporosis treatment?

South Med J. 2004 May;97(5):506-11. Review.

PMID: 15180028 [PubMed - indexed for MEDLINE]

- ☐ **88:** [Taranta A, Fortunati D, Longo M, Rucci N, Iacomino E, Aliberti F, Facciuto E, Migliaccio S, Bardella MT, Dubini A, Borghi MO, Saraifoger S, Teti A, Bianchi ML.](#) Related Articles, Links



Imbalance of osteoclastogenesis-regulating factors in patients with celiac disease.

J Bone Miner Res. 2004 Jul;19(7):1112-21. Epub 2004 Mar 22.

PMID: 15176994 [PubMed - indexed for MEDLINE]

- ☐ **89:** [Okada Y, Tsukada J, Nakano K, Tonai S, Mine S, Tanaka Y.](#) Related Articles, Links





















Macrophage inflammatory protein-1alpha induces hypercalcemia in adult T-cell leukemia.










J Bone Miner Res. 2004 Jul;19(7):1105-11. Epub 2004 Mar 15.









PMID: 15176993 [PubMed - indexed for MEDLINE]



















- ☐ **90:** [Dovio A, Data V, Angeli A.](#) Related Articles, Links  
 [Pathophysiological significance and clinical utility of circulating osteoprotegerin]  
Ann Ital Med Int. 2004 Jan-Mar;19(1):8-19. Review. Italian.  
PMID: 15176704 [PubMed - indexed for MEDLINE]
- ☐ **91:** [De Wilde A, Lieberherr M, Colin C, Pointillart A.](#) Related Articles, Links  
 A low dose of daidzein acts as an ERbeta-selective agonist in trabecular osteoblasts of young female piglets.  
J Cell Physiol. 2004 Aug;200(2):253-62.  
PMID: 15174095 [PubMed - indexed for MEDLINE]
- ☐ **92:** [Livshits G, Pantsulaia I, Trofimov S, Kobylansky E.](#) Related Articles, Links  
 Genetic influences on the circulating cytokines involved in osteoclastogenesis.  
J Med Genet. 2004 Jun;41(6):e76. No abstract available.  
PMID: 15173242 [PubMed - indexed for MEDLINE]
- ☐ **93:** [Pioletti DP, Kottelat A.](#) Related Articles, Links  
 The influence of wear particles in the expression of osteoclastogenesis factors by osteoblasts.  
Biomaterials. 2004 Dec;25(27):5803-8.  
PMID: 15172492 [PubMed - indexed for MEDLINE]
- ☐ **94:** [Vidal K, van den Broek P, Lorget F, Donnet-Hughes A.](#) Related Articles, Links  
 Osteoprotegerin in human milk: a potential role in the regulation of bone metabolism and immune development.  
Pediatr Res. 2004 Jun;55(6):1001-8.  
PMID: 15155868 [PubMed - indexed for MEDLINE]
- ☐ **95:** [Abedin M, Tintut Y, Demer LL.](#) Related Articles, Links  
 Vascular calcification: mechanisms and clinical ramifications.  
Arterioscler Thromb Vasc Biol. 2004 Jul;24(7):1161-70. Epub 2004 May 20. Review.  
PMID: 15155384 [PubMed - indexed for MEDLINE]
- ☐ **96:** [Seshasayee D, Wang H, Lee WP, Gribling P, Ross J, Van Bruggen N, Carano R, Grewal IS.](#) Related Articles, Links  
 A novel in vivo role for osteoprotegerin ligand in activation of monocyte effector function and inflammatory response.  
J Biol Chem. 2004 Jul 16;279(29):30202-9. Epub 2004 May 15.  
PMID: 15145935 [PubMed - indexed for MEDLINE]
- ☐ **97:** [Golledge J, McCann M, Mangan S, Lam A, Karan M.](#) Related Articles, Links  
 Osteoprotegerin and osteopontin are expressed at high concentrations within symptomatic carotid atherosclerosis.  
Stroke. 2004 Jul;35(7):1636-41. Epub 2004 May 13.  
PMID: 15143295 [PubMed - indexed for MEDLINE]
- ☐ **98:** [Jang HD, Yoon K, Shin YJ, Kim J, Lee SY.](#) Related Articles, Links  
 PIAS3 suppresses NF-kappaB-mediated transcription by interacting with the p65/RelA subunit.  
J Biol Chem. 2004 Jun 4;279(23):24873-80. Epub 2004 Mar 26.  
PMID: 15140884 [PubMed - indexed for MEDLINE]

- ☐ **99:** [Karst M, Gorny G, Galvin RJ, Oursler MJ.](#) Related Articles, Links  
 Roles of stromal cell RANKL, OPG, and M-CSF expression in biphasic TGF-beta regulation of osteoclast differentiation.  
J Cell Physiol. 2004 Jul;200(1):99-106.  
PMID: 15137062 [PubMed - indexed for MEDLINE]
- ☐ **100:** [Masi L, Simonini G, Piscitelli E, Del Monte F, Giani T, Cimaz R, Vierucci S, Brandi ML, Falcini F.](#) Related Articles, Links  
 Osteoprotegerin (OPG)/RANK-L system in juvenile idiopathic arthritis: is there a potential modulating role for OPG/RANK-L in bone injury?  
J Rheumatol. 2004 May;31(5):986-91.  
PMID: 15124262 [PubMed - indexed for MEDLINE]
- ☐ **101:** [Yeung RS.](#) Related Articles, Links  
 The osteoprotegerin/osteoprotegerin ligand family: role in inflammation and bone loss.  
J Rheumatol. 2004 May;31(5):844-6. Review. No abstract available.  
PMID: 15124240 [PubMed - indexed for MEDLINE]
- ☐ **102:** [Hao C, Song JH, Vilimanovich U, Kneteman NM.](#) Related Articles, Links  
 Modulation of TRAIL signaling complex.  
Vitam Horm. 2004;67:81-99. Review. No abstract available.  
PMID: 15110173 [PubMed - indexed for MEDLINE]
- ☐ **103:** [Ito S, Hata T.](#) Related Articles, Links  
 Crystal structure of RANK ligand involved in bone metabolism.  
Vitam Horm. 2004;67:19-33. Review.  
PMID: 15110169 [PubMed - indexed for MEDLINE]
- ☐ **104:** [Haynes DR, Crotti TN, Zreiqat H.](#) Related Articles, Links  
 Regulation of osteoclast activity in peri-implant tissues.  
Biomaterials. 2004 Sep;25(20):4877-85. Review.  
PMID: 15109848 [PubMed - indexed for MEDLINE]
- ☐ **105:** [Suzuki T, Suda N, Ohyama K.](#) Related Articles, Links  
 Osteoclastogenesis during mouse tooth germ development is mediated by receptor activator of NFKappa-B ligand (RANKL).  
J Bone Miner Metab. 2004;22(3):185-91.  
PMID: 15108059 [PubMed - indexed for MEDLINE]
- ☐ **106:** [Hofbauer LC, Cepok S, Hemmer B.](#) Related Articles, Links  
 Osteoprotegerin is highly expressed in the spinal cord and cerebrospinal fluid.  
Acta Neuropathol (Berl). 2004 Jun;107(6):575-7, author reply 578. Epub 2004 Apr 22.  
No abstract available.  
PMID: 15106011 [PubMed - indexed for MEDLINE]
- ☐ **107:** [Pulsatelli L, Dolzani P, Silvestri T, Caraceni P, Facchini A, Ravaglia G, Salvarani C, Meliconi R, Mariani E.](#) Related Articles, Links  
 Soluble receptor activator of nuclear factor- kappaB Ligand (sRANKL)/osteoprotegerin balance in ageing and age-associated diseases.  
Biogerontology. 2004;5(2):119-27.  
PMID: 15105586 [PubMed - indexed for MEDLINE]

- ☐ **108:** [Yao S, Ring S, Henk WG, Wise GE.](#) Related Articles, Links  
 In vivo expression of RANKL in the rat dental follicle as determined by laser capture microdissection.  
Arch Oral Biol. 2004 Jun;49(6):451-6.  
PMID: 15099802 [PubMed - indexed for MEDLINE]
- ☐ **109:** [Roberts-Harry D, Sandy J.](#) Related Articles, Links  
 Orthodontics. Part 11: orthodontic tooth movement.  
Br Dent J. 2004 Apr 10;196(7):391-4; quiz 426.  
PMID: 15071525 [PubMed - indexed for MEDLINE]
- ☐ **110:** [Morabito N, Gaudio A, Lasco A, Atteritano M, Pizzoleo MA, Cincotta M, La Rosa M, Guarino R, Meo A, Frisina N.](#) Related Articles, Links  
 Osteoprotegerin and RANKL in the pathogenesis of thalassemia-induced osteoporosis: new pieces of the puzzle.  
J Bone Miner Res. 2004 May;19(5):722-7. Epub 2004 Jan 12.  
PMID: 15068494 [PubMed - indexed for MEDLINE]
- ☐ **111:** [Smith R, Ransjo M, Tatarczuch L, Song SJ, Pagel C, Morrison JR, Pike RN, Mackie EJ.](#) Related Articles, Links  
 Activation of protease-activated receptor-2 leads to inhibition of osteoclast differentiation.  
J Bone Miner Res. 2004 Mar;19(3):507-16. Epub 2003 Dec 22.  
PMID: 15040840 [PubMed - indexed for MEDLINE]
- ☐ **112:** [Fukunaga J, Sugahara T.](#) Related Articles, Links  
 [Osteoporosis induced by immunosuppressant]  
Nippon Rinsho. 2004 Feb;62 Suppl 2:740-3. Review. Japanese. No abstract available.  
PMID: 15035219 [PubMed - indexed for MEDLINE]
- ☐ **113:** [Suda T, Miyaura C.](#) Related Articles, Links  
 [Recent advance in basic research for osteoporosis]  
Nippon Rinsho. 2004 Feb;62 Suppl 2:13-20. Review. Japanese. No abstract available.  
PMID: 15035090 [PubMed - indexed for MEDLINE]
- ☐ **114:** [Ishii T, Ohshima S, Ishida T, Mima T, Tabunoki Y, Kobayashi H, Maeda M, Uede T, Liaw L, Kinoshita N, Kawase I, Saeki Y.](#) Related Articles, Links  
 Osteopontin as a positive regulator in the osteoclastogenesis of arthritis.  
Biochem Biophys Res Commun. 2004 Apr 9;316(3):809-15.  
PMID: 15033472 [PubMed - indexed for MEDLINE]
- ☐ **115:** [Lowe CE, Cooper JD, Chapman JM, Barratt BJ, Twells RC, Green EA, Savage DA, Guja C, Ionescu-Tirgoviste C, Tuomilehto-Wolf E, Tuomilehto J, Todd JA, Clayton DG.](#) Related Articles, Links  
 Cost-effective analysis of candidate genes using htSNPs: a staged approach.  
Genes Immun. 2004 Jun;5(4):301-5.  
PMID: 15029236 [PubMed - indexed for MEDLINE]
- ☐ **116:** [MacQuarrie RA, Fang Chen Y, Coles C, Anderson GI.](#) Related Articles, Links  
 Wear-particle-induced osteoclast osteolysis: the role of particulates and mechanical strain.  
J Biomed Mater Res B Appl Biomater. 2004 Apr 15;69(1):104-12.  
PMID: 15015218 [PubMed - indexed for MEDLINE]
- ☐ **117:** [Kobayashi-Sakamoto M, Hirose K, Isogai E, Chiba I.](#) Related Articles, Links

-  NF-kappaB-dependent induction of osteoprotegerin by *Porphyromonas gingivalis* in endothelial cells.  
Biochem Biophys Res Commun. 2004 Feb 27;315(1):107-12.  
PMID: 15013432 [PubMed - indexed for MEDLINE]
- ☐ **118:** [Trofimov S, Pantsulaia Ia, Kobylansky E, Livshits G.](#) [Related Articles, Links](#)
-  Circulating levels of receptor activator of nuclear factor-kappaB ligand/osteoprotegerin/macrophage-colony stimulating factor in a presumably healthy human population.  
Eur J Endocrinol. 2004 Mar;150(3):305-11.  
PMID: 15012615 [PubMed - indexed for MEDLINE]
- ☐ **119:** [Korcok J, Raimundo LN, Ke HZ, Sims SM, Dixon SJ.](#) [Related Articles, Links](#)
-  Extracellular nucleotides act through P2X7 receptors to activate NF-kappaB in osteoclasts.  
J Bone Miner Res. 2004 Apr;19(4):642-51. Epub 2004 Jan 5.  
PMID: 15005852 [PubMed - indexed for MEDLINE]
- ☐ **120:** [Fukunaga J, Yamaai T, Yamachika E, Ishiwari Y, Tsujigiwa H, Sawaki K, Lee YJ, Ueno T, Kirino S, Mizukawa N, Takagi S, Nagai N, Sugahara T.](#) [Related Articles, Links](#)
-  Expression of osteoclast differentiation factor and osteoclastogenesis inhibitory factor in rat osteoporosis induced by immunosuppressant FK506.  
Bone. 2004 Mar;34(3):425-31.  
PMID: 15003790 [PubMed - indexed for MEDLINE]
- ☐ **121:** [Baek KH, Lee WY, Oh KW, Kim HS, Han JH, Kang MI, Cha BY, Lee KW, Son HY, Kang SK, Kim CC.](#) [Related Articles, Links](#)
-  Changes in the serum growth factors and osteoprotegerin after bone marrow transplantation: impact on bone and mineral metabolism.  
J Clin Endocrinol Metab. 2004 Mar;89(3):1246-54.  
PMID: 15001618 [PubMed - indexed for MEDLINE]
- ☐ **122:** [Tsuji K, Uno K, Zhang GX, Tamura M.](#) [Related Articles, Links](#)
-  Periodontal ligament cells under intermittent tensile stress regulate mRNA expression of osteoprotegerin and tissue inhibitor of matrix metalloprotease-1 and -2.  
J Bone Miner Metab. 2004;22(2):94-103.  
PMID: 14999519 [PubMed - indexed for MEDLINE]
- ☐ **123:** [Kubota A, Hasegawa K, Suguro T, Koshihara Y.](#) [Related Articles, Links](#)
-  Tumor necrosis factor-alpha promotes the expression of osteoprotegerin in rheumatoid synovial fibroblasts.  
J Rheumatol. 2004 Mar;31(3):426-35.  
PMID: 14994384 [PubMed - indexed for MEDLINE]
- ☐ **124:** [Hayashi S, Tsuneto M, Yamada T, Nose M, Yoshino M, Shultz LD, Yamazaki H.](#) [Related Articles, Links](#)
-  Lipopolysaccharide-induced osteoclastogenesis in Src homology 2-domain phosphatase-1-deficient viable motheaten mice.  
Endocrinology. 2004 Jun;145(6):2721-9. Epub 2004 Feb 26.  
PMID: 14988381 [PubMed - indexed for MEDLINE]
- ☐ **125:** [Ohazama A, Courtney JM, Sharpe PT.](#) [Related Articles, Links](#)

-  Opg, Rank, and Rankl in tooth development: co-ordination of odontogenesis and osteogenesis.  
J Dent Res. 2004 Mar;83(3):241-4.  
PMID: 14981127 [PubMed - indexed for MEDLINE]
- ☐ **126:** Okahashi N, Inaba H, Nakagawa I, Yamamura T, Kuboniwa M, Nakayama K, Hamada S, Amano A. Related Articles, Links
-  Porphyromonas gingivalis induces receptor activator of NF-kappaB ligand expression in osteoblasts through the activator protein 1 pathway.  
Infect Immun. 2004 Mar;72(3):1706-14.  
PMID: 14977979 [PubMed - indexed for MEDLINE]
- ☐ **127:** He J, Jiang J, Safavi KE, Spangberg LS, Zhu Q. Related Articles, Links
-  Emdogain promotes osteoblast proliferation and differentiation and stimulates osteoprotegerin expression.  
Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2004 Feb;97(2):239-45.  
PMID: 14970783 [PubMed - indexed for MEDLINE]
- ☐ **128:** Harashima SI, Tsukamoto H, Horiuchi T. Related Articles, Links
-  Osteoprotegerin and receptor activator of nuclear factor kappaB ligand expression in fibroblast-like synoviocytes from rheumatoid arthritis and osteoarthritis patients.  
Rheumatology (Oxford). 2004 Mar;43(3):396-7; author reply 397. No abstract available.  
PMID: 14963213 [PubMed - indexed for MEDLINE]
- ☐ **129:** Wang FS, Wang CJ, Chen YJ, Huang YT, Huang HC, Chang PR, Sun YC, Yang KD. Related Articles, Links
-  Nitric oxide donor increases osteoprotegerin production and osteoclastogenesis inhibitory activity in bone marrow stromal cells from ovariectomized rats.  
Endocrinology. 2004 May;145(5):2148-56. Epub 2004 Feb 12.  
PMID: 14962990 [PubMed - indexed for MEDLINE]
- ☐ **130:** Duran A, Serrano M, Leitges M, Flores JM, Picard S, Brown JP, Moscat J, Diaz-Meco MT. Related Articles, Links
-  The atypical PKC-interacting protein p62 is an important mediator of RANK-activated osteoclastogenesis.  
Dev Cell. 2004 Feb;6(2):303-9.  
PMID: 14960283 [PubMed - indexed for MEDLINE]
- ☐ **131:** Suda K, Udagawa N, Sato N, Takami M, Itoh K, Woo JT, Takahashi N, Nagai K. Related Articles, Links
-  Suppression of osteoprotegerin expression by prostaglandin E2 is crucially involved in lipopolysaccharide-induced osteoclast formation.  
J Immunol. 2004 Feb 15;172(4):2504-10.  
PMID: 14764723 [PubMed - indexed for MEDLINE]
- ☐ **132:** Valverde P, Kawai T, Taubman MA. Related Articles, Links
-  Selective blockade of voltage-gated potassium channels reduces inflammatory bone resorption in experimental periodontal disease.  
J Bone Miner Res. 2004 Jan;19(1):155-64.  
PMID: 14753747 [PubMed - indexed for MEDLINE]
- ☐ **133:** Pan B, Farrugia AN, To LB, Findlay DM, Green J, Lynch K, Zannettino AC. Related Articles, Links

-  The nitrogen-containing bisphosphonate, zoledronic acid, influences RANKL expression in human osteoblast-like cells by activating TNF-alpha converting enzyme (TACE).  
J Bone Miner Res. 2004 Jan;19(1):147-54.  
PMID: 14753746 [PubMed - indexed for MEDLINE]
- ☐ **134:** Itonaga I, Sabokbar A, Sun SG, Kudo O, Danks L, Ferguson D, Fujikawa Y, Athanasou NA. Related Articles, Links
-  Transforming growth factor-beta induces osteoclast formation in the absence of RANKL.  
Bone. 2004 Jan;34(1):57-64.  
PMID: 14751563 [PubMed - indexed for MEDLINE]
- ☐ **135:** Kwan Tat S, Padrines M, Theoleyre S, Heymann D, Fortun Y. Related Articles, Links
-  IL-6, RANKL, TNF-alpha/IL-1: interrelations in bone resorption pathophysiology.  
Cytokine Growth Factor Rev. 2004 Feb;15(1):49-60. Review.  
PMID: 14746813 [PubMed - indexed for MEDLINE]
- ☐ **136:** Mogi M, Otagoto J, Ota N, Togari A. Related Articles, Links
-  Differential expression of RANKL and osteoprotegerin in gingival crevicular fluid of patients with periodontitis.  
J Dent Res. 2004 Feb;83(2):166-9.  
PMID: 14742657 [PubMed - indexed for MEDLINE]
- ☐ **137:** Theoleyre S, Wittrant Y, Couillaud S, Vusio P, Berreur M, Dunstan C, Blanchard F, Redini F, Heymann D. Related Articles, Links
-  Cellular activity and signaling induced by osteoprotegerin in osteoclasts: involvement of receptor activator of nuclear factor kappaB ligand and MAPK.  
Biochim Biophys Acta. 2004 Feb 2;1644(1):1-7.  
PMID: 14741739 [PubMed - indexed for MEDLINE]
- ☐ **138:** Guillonnet C, Louvet C, Renaudin K, Heslan JM, Heslan M, Tesson L, Vignes C, Guillot C, Choi Y, Turka LA, Cuturi MC, Anegon I, Josien R. Related Articles, Links
-  The role of TNF-related activation-induced cytokine-receptor activating NF-kappa B interaction in acute allograft rejection and CD40L-independent chronic allograft rejection.  
J Immunol. 2004 Feb 1;172(3):1619-29.  
PMID: 14734743 [PubMed - indexed for MEDLINE]
- ☐ **139:** Kaden JJ, Bickelhaupt S, Grobholz R, Haase KK, Sarikoc A, Kilic R, Brueckmann M, Lang S, Zahn I, Vahl C, Hagl S, Dempfle CE, Borggreffe M. Related Articles, Links
-  Receptor activator of nuclear factor kappaB ligand and osteoprotegerin regulate aortic valve calcification.  
J Mol Cell Cardiol. 2004 Jan;36(1):57-66.  
PMID: 14734048 [PubMed - indexed for MEDLINE]
- ☐ **140:** Mallat Z, Tedgui A. Related Articles, Links
-  Unbalanced RANKL/RANK pathway in aortic valve sclerosis.  
J Mol Cell Cardiol. 2004 Jan;36(1):17-9. No abstract available.  
PMID: 14734042 [PubMed - indexed for MEDLINE]
- ☐ **141:** Munoz-Torres M, de la Higuera Lopez-Frias M, Fernandez Related Articles, Links

Garcia D.



[Advances in osteoclast biology: the osteoprotegerin-RANK ligand system]

Med Clin (Barc). 2004 Jan 24;122(2):75-7. Review. Spanish. Erratum in: Med Clin (Barc). 2004 Feb 28;122(7):258.

PMID: 14733862 [PubMed - indexed for MEDLINE]

- ☐ **142:** Zwerina J, Hayer S, Tohidast-Akrad M, Bergmeister H, Redlich K, Feige U, Dunstan C, Kollias G, Steiner G, Smolen J, Schett G. [Related Articles](#), [Links](#)



Single and combined inhibition of tumor necrosis factor, interleukin-1, and RANKL pathways in tumor necrosis factor-induced arthritis: effects on synovial inflammation, bone erosion, and cartilage destruction.

Arthritis Rheum. 2004 Jan;50(1):277-90.

PMID: 14730626 [PubMed - indexed for MEDLINE]

- ☐ **143:** Wittrant Y, Theoleyre S, Couillaud S, Dunstan C, Heymann D, Redini F. [Related Articles](#), [Links](#)



Relevance of an in vitro osteoclastogenesis system to study receptor activator of NF-kB ligand and osteoprotegerin biological activities.

Exp Cell Res. 2004 Feb 15;293(2):292-301.

PMID: 14729467 [PubMed - indexed for MEDLINE]

- ☐ **144:** Yoneda T, Ishimaru N, Arakaki R, Kobayashi M, Izawa T, Moriyama K, Hayashi Y. [Related Articles](#), [Links](#)



Estrogen deficiency accelerates murine autoimmune arthritis associated with receptor activator of nuclear factor-kappa B ligand-mediated osteoclastogenesis.

Endocrinology. 2004 May;145(5):2384-91. Epub 2004 Jan 15.

PMID: 14726437 [PubMed - indexed for MEDLINE]

- ☐ **145:** Hofbauer LC, Schoppet M, Schuller P, Viereck V, Christ M. [Related Articles](#), [Links](#)



Effects of oral contraceptives on circulating osteoprotegerin and soluble RANK ligand serum levels in healthy young women.

Clin Endocrinol (Oxf). 2004 Feb;60(2):214-9.

PMID: 14725683 [PubMed - indexed for MEDLINE]

- ☐ **146:** Skoumal M, Kolarz G, Woloszczuk W, Hawa G, Klingler A. [Related Articles](#), [Links](#)



Serum osteoprotegerin but not receptor activator of NF-kappaB ligand correlates with Larsen score in rheumatoid arthritis.

Ann Rheum Dis. 2004 Feb;63(2):216-7. No abstract available.

PMID: 14722219 [PubMed - indexed for MEDLINE]

- ☐ **147:** Crisafulli A, Altavilla D, Squadrito G, Romeo A, Adamo EB, Marini R, Infrerra MA, Marini H, Bitto A, D'Anna R, Corrado F, Bartolone S, Frisina N, Squadrito F. [Related Articles](#), [Links](#)



Effects of the phytoestrogen genistein on the circulating soluble receptor activator of nuclear factor kappaB ligand-osteoprotegerin system in early postmenopausal women.

J Clin Endocrinol Metab. 2004 Jan;89(1):188-92.

PMID: 14715848 [PubMed - indexed for MEDLINE]

- ☐ **148:** Zhang D, Yang YQ, Li XT, Fu MK. [Related Articles](#), [Links](#)



The expression of osteoprotegerin and the receptor activator of nuclear factor kappa B ligand in human periodontal ligament cells cultured with

and without 1alpha,25-dihydroxyvitamin D3.  
Arch Oral Biol. 2004 Jan;49(1):71-6.  
PMID: 14693199 [PubMed - indexed for MEDLINE]

- ☐ **149:** [Gehrke T, Sers C, Morawietz L, Fernahl G, Neidel J, Frommelt L, Krenn V.](#) Related Articles, Links



Receptor activator of nuclear factor kappaB ligand is expressed in resident and inflammatory cells in aseptic and septic prosthesis loosening.

Scand J Rheumatol. 2003;32(5):287-94.  
PMID: 14690142 [PubMed - indexed for MEDLINE]

- ☐ **150:** [Ogasawara T, Yoshimine Y, Kiyoshima T, Kobayashi I, Matsuo K, Akamine A, Sakai H.](#) Related Articles, Links



In situ expression of RANKL, RANK, osteoprotegerin and cytokines in osteoclasts of rat periodontal tissue.

J Periodontal Res. 2004 Feb;39(1):42-9.  
PMID: 14687227 [PubMed - indexed for MEDLINE]

- ☐ **151:** [Cheng X, Kinoshita M, Takami M, Choi Y, Zhang H, Murali R.](#) Related Articles, Links



Disabling of receptor activator of nuclear factor-kappaB (RANK) receptor complex by novel osteoprotegerin-like peptidomimetics restores bone loss in vivo.

J Biol Chem. 2004 Feb 27;279(9):8269-77. Epub 2003 Dec 15.  
PMID: 14679212 [PubMed - indexed for MEDLINE]

- ☐ **152:** [Buzi F, Maccarinelli G, Guaragni B, Ruggeri F, Radetti G, Meini A, Mazzolari E, Cocchi D.](#) Related Articles, Links



Serum osteoprotegerin and receptor activator of nuclear factors kB (RANKL) concentrations in normal children and in children with pubertal precocity, Turner's syndrome and rheumatoid arthritis.

Clin Endocrinol (Oxf). 2004 Jan;60(1):87-91.  
PMID: 14678293 [PubMed - indexed for MEDLINE]

- ☐ **153:** [Crotti TN, Ahern MJ, Lange K, Weedon H, Coleman M, Roberts-Thomson PJ, Haynes DR, Smith MD.](#) Related Articles, Links



Variability of RANKL and osteoprotegerin staining in synovial tissue from patients with active rheumatoid arthritis: quantification using color video image analysis.

J Rheumatol. 2003 Nov;30(11):2319-24.  
PMID: 14677171 [PubMed - indexed for MEDLINE]

- ☐ **154:** [Kumamoto H, Ooya K.](#) Related Articles, Links



Expression of parathyroid hormone-related protein (PTHrP), osteoclast differentiation factor (ODF)/receptor activator of nuclear factor-kappaB ligand (RANKL) and osteoclastogenesis inhibitory factor (OCIF)/osteoprotegerin (OPG) in ameloblastomas.

J Oral Pathol Med. 2004 Jan;33(1):46-52.  
PMID: 14675140 [PubMed - indexed for MEDLINE]

- ☐ **155:** [Nielsen KL, Allen MR, Bloomfield SA, Andersen TL, Chen XD, Poulsen HS, Young MF, Heegaard AM.](#) Related Articles, Links




















Biglycan deficiency interferes with ovariectomy-induced bone loss.

J Bone Miner Res. 2003 Dec;18(12):2152-8.  
PMID: 14672350 [PubMed - indexed for MEDLINE]



- ☐ **156:** [Ashcroft AJ, Cruickshank SM, Croucher PI, Perry MJ, Rollinson S, Lippitt JM, Child JA, Dunstan C, Felsburg PJ, Morgan GJ, Carding SR.](#) [Related Articles, Links](#)  
Colonic dendritic cells, intestinal inflammation, and T cell-mediated bone destruction are modulated by recombinant osteoprotegerin. *Immunity*. 2003 Dec;19(6):849-61.  
PMID: 14670302 [PubMed - indexed for MEDLINE]
- ☐ **157:** [Naruse M, Otsuka E, Naruse M, Ishihara Y, Miyagawa-Tomita S, Hagiwara H.](#) [Related Articles, Links](#)  
Inhibition of osteoclast formation by 3-methylcholanthrene, a ligand for arylhydrocarbon receptor: suppression of osteoclast differentiation factor in osteogenic cells. *Biochem Pharmacol*. 2004 Jan 1;67(1):119-27.  
PMID: 14667934 [PubMed - indexed for MEDLINE]
- ☐ **158:** [Miyahira Y, Akiba H, Katae M, Kubota K, Kobayashi S, Takeuchi T, Garcia-Sastre A, Fukuchi Y, Okumura K, Yagita H, Aoki T.](#) [Related Articles, Links](#)  
Cutting edge: a potent adjuvant effect of ligand to receptor activator of NF-kappa B gene for inducing antigen-specific CD8+ T cell response by DNA and viral vector vaccination. *J Immunol*. 2003 Dec 15;171(12):6344-8.  
PMID: 14662831 [PubMed - indexed for MEDLINE]
- ☐ **159:** [Pennisi P, Signorelli SS, Riccobene S, Celotta G, Di Pino L, La Malfa T, Fiore CE.](#) [Related Articles, Links](#)  
Low bone density and abnormal bone turnover in patients with atherosclerosis of peripheral vessels. *Osteoporos Int*. 2004 May;15(5):389-95. Epub 2003 Dec 6.  
PMID: 14661073 [PubMed - indexed for MEDLINE]
- ☐ **160:** [Mandelin J, Li TF, Liljestrom M, Kroon ME, Hanemaaijer R, Santavirta S, Kontinen YT.](#) [Related Articles, Links](#)  
Imbalance of RANKL/RANK/OPG system in interface tissue in loosening of total hip replacement. *J Bone Joint Surg Br*. 2003 Nov;85(8):1196-201.  
PMID: 14653607 [PubMed - indexed for MEDLINE]
- ☐ **161:** [Su X, Liao EY, Peng J, Wu XP.](#) [Related Articles, Links](#)  
[The effects of 17 beta-estradiol on the expression of osteoprotegerin, the ligand of osteoprotegerin and related cytokines in osteosarcoma MG63 cells] *Zhonghua Nei Ke Za Zhi*. 2003 Nov;42(11):800-3. Chinese.  
PMID: 14636471 [PubMed - indexed for MEDLINE]
- ☐ **162:** [Jung K, Stephan C, Semjonow A, Lein M, Schnorr D, Loening SA.](#) [Related Articles, Links](#)  
Serum osteoprotegerin and receptor activator of nuclear factor-kappa B ligand as indicators of disturbed osteoclastogenesis in patients with prostate cancer. *J Urol*. 2003 Dec;170(6 Pt 1):2302-5.  
PMID: 14634401 [PubMed - indexed for MEDLINE]
- ☐ **163:** [Chan BY, Buckley KA, Durham BH, Gallagher JA, Fraser WD.](#) [Related Articles, Links](#)  
Effect of anticoagulants and storage temperature on the stability of

-  receptor activator for nuclear factor-kappa B ligand and osteoprotegerin in plasma and serum.  
Clin Chem. 2003 Dec;49(12):2083-5. No abstract available.  
PMID: 14633883 [PubMed - indexed for MEDLINE]
- ☐ **164:** [Zhang J, Dai J, Yao Z, Lu Y, Dougall W, Keller ET.](#) [Related Articles, Links](#)
-  Soluble receptor activator of nuclear factor kappaB Fc diminishes prostate cancer progression in bone.  
Cancer Res. 2003 Nov 15;63(22):7883-90.  
PMID: 14633717 [PubMed - indexed for MEDLINE]
- ☐ **165:** [Terpos E, Politou M, Rahemtulla A.](#) [Related Articles, Links](#)
-  New insights into the pathophysiology and management of bone disease in multiple myeloma.  
Br J Haematol. 2003 Dec;123(5):758-69. Review. No abstract available.  
PMID: 14632767 [PubMed - indexed for MEDLINE]
- ☐ **166:** [Voskaridou E, Terpos E, Spina G, Palermos J, Rahemtulla A, Loutradi A, Loukopoulos D.](#) [Related Articles, Links](#)
-  Pamidronate is an effective treatment for osteoporosis in patients with beta-thalassaemia.  
Br J Haematol. 2003 Nov;123(4):730-7.  
PMID: 14616979 [PubMed - indexed for MEDLINE]
- ☐ **167:** [Hortobagyi GN.](#) [Related Articles, Links](#)
-  Novel approaches to the management of bone metastases.  
Semin Oncol. 2003 Oct;30(5 Suppl 16):161-6. Review.  
PMID: 14613037 [PubMed - indexed for MEDLINE]
- ☐ **168:** [Padigel UM, Kim N, Choi Y, Farrell JP.](#) [Related Articles, Links](#)
-  TRANCE-RANK costimulation is required for IL-12 production and the initiation of a Th1-type response to Leishmania major infection in CD40L-deficient mice.  
J Immunol. 2003 Nov 15;171(10):5437-41.  
PMID: 14607948 [PubMed - indexed for MEDLINE]
- ☐ **169:** [Hayashi S, Yamada T, Tsuneto M, Yamane T, Takahashi M, Shultz LD, Yamazaki H.](#) [Related Articles, Links](#)
-  Distinct osteoclast precursors in the bone marrow and extramedullary organs characterized by responsiveness to Toll-like receptor ligands and TNF-alpha.  
J Immunol. 2003 Nov 15;171(10):5130-9.  
PMID: 14607912 [PubMed - indexed for MEDLINE]
- ☐ **170:** [Crotti TN, Smith MD, Findlay DM, Zreiqat H, Ahern MJ, Weedon H, Hatzinikolous G, Capone M, Holding C, Haynes DR.](#) [Related Articles, Links](#)
-  Factors regulating osteoclast formation in human tissues adjacent to peri-implant bone loss: expression of receptor activator NFkappaB, RANK ligand and osteoprotegerin.  
Biomaterials. 2004 Feb;25(4):565-73.  
PMID: 14607494 [PubMed - indexed for MEDLINE]
- ☐ **171:** [Heim M, Frank O, Kampmann G, Sochocky N, Pennimpede T, Fuchs P, Hunziker W, Weber P, Martin I, Bendik I.](#) [Related Articles, Links](#)

-  The phytoestrogen genistein enhances osteogenesis and represses adipogenic differentiation of human primary bone marrow stromal cells. *Endocrinology*. 2004 Feb;145(2):848-59. Epub 2003 Nov 6. PMID: 14605006 [PubMed - indexed for MEDLINE]
- ☐ 172: [Naylor KE, Rogers A, Fraser RB, Hall V, Eastell R, Blumsohn A.](#) Related Articles, Links
-  Serum osteoprotegerin as a determinant of bone metabolism in a longitudinal study of human pregnancy and lactation. *J Clin Endocrinol Metab*. 2003 Nov;88(11):5361-5. PMID: 14602774 [PubMed - indexed for MEDLINE]
- ☐ 173: [Grimaud E, Soubigou L, Couillaud S, Coipeau P, Moreau A, Passuti N, Gouin F, Redini F, Heymann D.](#) Related Articles, Links
-  Receptor activator of nuclear factor kappaB ligand (RANKL)/osteoprotegerin (OPG) ratio is increased in severe osteolysis. *Am J Pathol*. 2003 Nov;163(5):2021-31. PMID: 14578201 [PubMed - indexed for MEDLINE]
- ☐ 174: [Barille-Nion S, Bataille R.](#) Related Articles, Links
-  New insights in myeloma-induced osteolysis. *Leuk Lymphoma*. 2003 Sep;44(9):1463-7. Review. PMID: 14565645 [PubMed - indexed for MEDLINE]
- ☐ 175: [Fan X, Roy E, Zhu L, Murphy TC, Ackert-Bicknell C, Hart CM, Rosen C, Nanes MS, Rubin J.](#) Related Articles, Links
-  Nitric oxide regulates receptor activator of nuclear factor-kappaB ligand and osteoprotegerin expression in bone marrow stromal cells. *Endocrinology*. 2004 Feb;145(2):751-9. Epub 2003 Oct 16. PMID: 14563699 [PubMed - indexed for MEDLINE]
- ☐ 176: [von Tirpitz C, Epp S, Klaus J, Mason R, Hawa G, Brinskelle-Schmal N, Hofbauer LC, Adler G, Kratzer W, Reinshagen M.](#) Related Articles, Links
-  Effect of systemic glucocorticoid therapy on bone metabolism and the osteoprotegerin system in patients with active Crohn's disease. *Eur J Gastroenterol Hepatol*. 2003 Nov;15(11):1165-70. PMID: 14560148 [PubMed - indexed for MEDLINE]
- ☐ 177: [Smith BB, Cosenza ME, Mancini A, Dunstan C, Gregson R, Martin SW, Smith SY, Davis H.](#) Related Articles, Links
-  A toxicity profile of osteoprotegerin in the cynomolgus monkey. *Int J Toxicol*. 2003 Sep-Oct;22(5):403-12. PMID: 14555415 [PubMed - indexed for MEDLINE]
- ☐ 178: [Nagata N, Kitaura H, Yoshida N, Nakayama K.](#) Related Articles, Links
-  Inhibition of RANKL-induced osteoclast formation in mouse bone marrow cells by IL-12: involvement of IFN-gamma possibly induced from non-T cell population. *Bone*. 2003 Oct;33(4):721-32. PMID: 14555278 [PubMed - indexed for MEDLINE]
- ☐ 179: [Ueland T, Odgren PR, Yndestad A, Godang K, Schreiner T, Marks SC, Bollerslev J.](#) Related Articles, Links
-  Growth hormone substitution increases gene expression of members of the IGF family in cortical bone from women with adult onset growth hormone deficiency--relationship with bone turn-over.

Bone. 2003 Oct;33(4):638-45.  
PMID: 14555269 [PubMed - indexed for MEDLINE]

- ☐ **180:** [Wiethe C, Dittmar K, Doan T, Lindenmaier W, Tindle R.](#) [Related Articles, Links](#)



Enhanced effector and memory CTL responses generated by incorporation of receptor activator of NF-kappa B (RANK)/RANK ligand costimulatory molecules into dendritic cell immunogens expressing a human tumor-specific antigen.  
J Immunol. 2003 Oct 15;171(8):4121-30.  
PMID: 14530334 [PubMed - indexed for MEDLINE]

- ☐ **181:** [Ren W, Yang SY, Fang HW, Hsu S, Wooley PH.](#) [Related Articles, Links](#)



Distinct gene expression of receptor activator of nuclear factor-kappaB and rank ligand in the inflammatory response to variant morphologies of UHMWPE particles.  
Biomaterials. 2003 Nov;24(26):4819-26.  
PMID: 14530078 [PubMed - indexed for MEDLINE]

- ☐ **182:** [Malyszko J, Malyszko JS, Wolczynski S, Mysliwiec M.](#) [Related Articles, Links](#)



Osteoprotegerin and its correlations with new markers of bone formation and bone resorption in kidney transplant recipients.  
Transplant Proc. 2003 Sep;35(6):2227-9.  
PMID: 14529897 [PubMed - indexed for MEDLINE]

- ☐ **183:** [Bergh JJ, Xu Y, Farach-Carson MC.](#) [Related Articles, Links](#)



Osteoprotegerin expression and secretion are regulated by calcium influx through the L-type voltage-sensitive calcium channel.  
Endocrinology. 2004 Jan;145(1):426-36. Epub 2003 Oct 2.  
PMID: 14525906 [PubMed - indexed for MEDLINE]

- ☐ **184:** [Sattler AM, Schoppet M, Schaefer JR, Hofbauer LC.](#) [Related Articles, Links](#)



Novel aspects on RANK ligand and osteoprotegerin in osteoporosis and vascular disease.  
Calcif Tissue Int. 2004 Jan;74(1):103-6. Epub 2003 Oct 6. Review.  
PMID: 14523602 [PubMed - indexed for MEDLINE]

- ☐ **185:** [Seidlova-Wuttke D, Hesse O, Jarry H, Christoffel V, Spengler B, Becker T, Wuttke W.](#) [Related Articles, Links](#)



Evidence for selective estrogen receptor modulator activity in a black cohosh (Cimicifuga racemosa) extract: comparison with estradiol-17beta.  
Eur J Endocrinol. 2003 Oct;149(4):351-62.  
PMID: 14514351 [PubMed - indexed for MEDLINE]

- ☐ **186:** [Ha H, Kwak HB, Le SW, Kim HH, Lee ZH.](#) [Related Articles, Links](#)



Lipid rafts are important for the association of RANK and TRAF6.  
Exp Mol Med. 2003 Aug 31;35(4):279-84.  
PMID: 14508068 [PubMed - indexed for MEDLINE]

- ☐ **187:** [Ueno Y, Shinki T, Nagai Y, Murayama H, Fujii K, Suda T.](#) [Related Articles, Links](#)



In vivo administration of 1,25-dihydroxyvitamin D3 suppresses the expression of RANKL mRNA in bone of thyroparathyroidectomized rats constantly infused with PTH.  
J Cell Biochem. 2003 Oct 1;90(2):267-77.

PMID: 14505343 [PubMed - indexed for MEDLINE]

- ☐ **188:** [Zhang Z, Jimi E, Bothwell AL.](#) [Related Articles, Links](#)



Receptor activator of NF-kappa B ligand stimulates recruitment of SHP-1 to the complex containing TNFR-associated factor 6 that regulates osteoclastogenesis.

J Immunol. 2003 Oct 1;171(7):3620-6.

PMID: 14500659 [PubMed - indexed for MEDLINE]

- ☐ **189:** [Nakamura M, Udagawa N, Matsuura S, Mogi M, Nakamura H, Horiuchi H, Saito N, Hiraoka BY, Kobayashi Y, Takaoka K, Ozawa H, Miyazawa H, Takahashi N.](#) [Related Articles, Links](#)



Osteoprotegerin regulates bone formation through a coupling mechanism with bone resorption.

Endocrinology. 2003 Dec;144(12):5441-9. Epub 2003 Sep 18.

PMID: 14500574 [PubMed - indexed for MEDLINE]

- ☐ **190:** [Kim HH, Shin HS, Kwak HJ, Ahn KY, Kim JH, Lee HJ, Lee MS, Lee ZH, Koh GY.](#) [Related Articles, Links](#)



RANKL regulates endothelial cell survival through the phosphatidylinositol 3'-kinase/Akt signal transduction pathway.

FASEB J. 2003 Nov;17(14):2163-5. Epub 2003 Sep 18.

PMID: 14500543 [PubMed - indexed for MEDLINE]

- ☐ **191:** [Sakurai A, Okahashi N, Nakagawa I, Kawabata S, Amano A, Ooshima T, Hamada S.](#) [Related Articles, Links](#)



Streptococcus pyogenes infection induces septic arthritis with increased production of the receptor activator of the NF-kappaB ligand.

Infect Immun. 2003 Oct;71(10):6019-26.

PMID: 14500523 [PubMed - indexed for MEDLINE]

- ☐ **192:** [Farrugia AN, Atkins GJ, To LB, Pan B, Horvath N, Kostakis P, Findlay DM, Bardy P, Zannettino AC.](#) [Related Articles, Links](#)



Receptor activator of nuclear factor-kappaB ligand expression by human myeloma cells mediates osteoclast formation in vitro and correlates with bone destruction in vivo.

Cancer Res. 2003 Sep 1;63(17):5438-45.

PMID: 14500379 [PubMed - indexed for MEDLINE]

- ☐ **193:** [Nakamura H, Kumei Y, Morita S, Shimokawa H, Ohya K, Shinomiya K.](#) [Related Articles, Links](#)



Suppression of osteoblastic phenotypes and modulation of pro- and anti-apoptotic features in normal human osteoblastic cells under a vector-averaged gravity condition.

J Med Dent Sci. 2003 Jun;50(2):167-76.

PMID: 12968638 [PubMed - indexed for MEDLINE]

- ☐ **194:** [Zhang L, Feng X, McDonald JM.](#) [Related Articles, Links](#)



The role of calmodulin in the regulation of osteoclastogenesis.

Endocrinology. 2003 Oct;144(10):4536-43. Epub 2003 Jun 26.

PMID: 12960067 [PubMed - indexed for MEDLINE]

- ☐ **195:** [Breuil V, Schmid-Antomarchi H, Schmid-Alliana A, Rezzonico R, Euller-Ziegler L, Rossi B.](#) [Related Articles, Links](#)



The receptor activator of nuclear factor (NF)-kappaB ligand (RANKL) is a new chemotactic factor for human monocytes.

FASEB J. 2003 Sep;17(12):1751-3. Epub 2003 Jul 18.  
PMID: 12958198 [PubMed - indexed for MEDLINE]

- ☐ **196:** Lee HA, Jeong H, Kim EY, Nam MY, Yoo YJ, Seo JT, Shin DM, Ohk SH, Lee SI. Related Articles, Links



Bumetanide, the specific inhibitor of Na<sup>+</sup>-K<sup>+</sup>-2Cl<sup>-</sup> cotransport, inhibits 1 $\alpha$ ,25-dihydroxyvitamin D<sub>3</sub>-induced osteoclastogenesis in a mouse co-culture system.

Exp Physiol. 2003 Sep;88(5):569-74.

PMID: 12955156 [PubMed - indexed for MEDLINE]

- ☐ **197:** Srivastava S, Matsuda M, Hou Z, Bailey JP, Kitazawa R, Herbst MP, Horseman ND. Related Articles, Links



Receptor activator of NF-kappaB ligand induction via Jak2 and Stat5a in mammary epithelial cells.

J Biol Chem. 2003 Nov 14;278(46):46171-8. Epub 2003 Sep 2.

PMID: 12952963 [PubMed - indexed for MEDLINE]

- ☐ **198:** Yamagami H, Nishioka T, Ochiai E, Fukushima K, Nomura M, Kasugai S, Moritani S, Yokogawa K, Miyamoto K. Related Articles, Links



Inhibition of osteoclastogenesis by a phosphodiesterase 4 inhibitor XT-611 through synergistic action with endogenous prostaglandin E<sub>2</sub>.

Biochem Pharmacol. 2003 Sep 1;66(5):801-7.

PMID: 12948861 [PubMed - indexed for MEDLINE]

- ☐ **199:** Sugatani T, Alvarez UM, Hruska KA. Related Articles, Links



Activin A stimulates IkappaB-alpha/NFkappaB and RANK expression for osteoclast differentiation, but not AKT survival pathway in osteoclast precursors.

J Cell Biochem. 2003 Sep 1;90(1):59-67.

PMID: 12938156 [PubMed - indexed for MEDLINE]

- ☐ **200:** Karsdal MA, Hjorth P, Henriksen K, Kirkegaard T, Nielsen KL, Lou H, Delaisse JM, Foged NT. Related Articles, Links



Transforming growth factor-beta controls human osteoclastogenesis through the p38 MAPK and regulation of RANK expression.

J Biol Chem. 2003 Nov 7;278(45):44975-87. Epub 2003 Aug 20.

PMID: 12933809 [PubMed - indexed for MEDLINE]

- ☐ **201:** Park HR, Min SK, Cho HD, Kim DH, Shin HS, Park YE. Related Articles, Links



Expression of osteoprotegerin and RANK ligand in breast cancer bone metastasis.

J Korean Med Sci. 2003 Aug;18(4):541-6.

PMID: 12923331 [PubMed - indexed for MEDLINE]

- ☐ **202:** Tabb MM, Sun A, Zhou C, Grun F, Errandi J, Romero K, Pham H, Inoue S, Mallick S, Lin M, Forman BM, Blumberg B. Related Articles, Links



Vitamin K<sub>2</sub> regulation of bone homeostasis is mediated by the steroid and xenobiotic receptor SXR.

J Biol Chem. 2003 Nov 7;278(45):43919-27. Epub 2003 Aug 14.

PMID: 12920130 [PubMed - indexed for MEDLINE]









- ☐ **203:** Teitelbaum SL, Ross FP. Related Articles, Links












Genetic regulation of osteoclast development and function.

Nat Rev Genet. 2003 Aug;4(8):638-49. Review.

PMID: 12897775 [PubMed - indexed for MEDLINE]

- ☐ **204:** [Min JK, Kim YM, Kim YM, Kim EC, Gho YS, Kang JJ, Lee SY, Kong YY, Kwon YG.](#) Related Articles, Links  
 Vascular endothelial growth factor up-regulates expression of receptor activator of NF-kappa B (RANK) in endothelial cells. Concomitant increase of angiogenic responses to RANK ligand.  
J Biol Chem. 2003 Oct 10;278(41):39548-57. Epub 2003 Jul 31.  
PMID: 12893832 [PubMed - indexed for MEDLINE]
- ☐ **205:** [Fukushima H, Kajiya H, Takada K, Okamoto F, Okabe K.](#) Related Articles, Links  
 Expression and role of RANKL in periodontal ligament cells during physiological root-resorption in human deciduous teeth.  
Eur J Oral Sci. 2003 Aug;111(4):346-52.  
PMID: 12887401 [PubMed - indexed for MEDLINE]
- ☐ **206:** [Chen X, Garner SC, Quarles LD, Anderson JJ.](#) Related Articles, Links  
 Effects of genistein on expression of bone markers during MC3T3-E1 osteoblastic cell differentiation.  
J Nutr Biochem. 2003 Jun;14(6):342-9.  
PMID: 12873716 [PubMed - indexed for MEDLINE]
- ☐ **207:** [Oh KO, Kim SW, Kim JY, Ko SY, Kim HM, Baek JH, Ryoo HM, Kim JK.](#) Related Articles, Links  
 Effect of Rehmannia glutinosa Libosch extracts on bone metabolism.  
Clin Chim Acta. 2003 Aug;334(1-2):185-95.  
PMID: 12867291 [PubMed - indexed for MEDLINE]
- ☐ **208:** [Robinson D, Segal M, Nevo Z.](#) Related Articles, Links  
 Giant cell tumor of bone. The role of fibroblast growth factor 3 positive mesenchymal stem cells in its pathogenesis.  
Pathobiology. 2002-2003;70(6):333-42.  
PMID: 12865629 [PubMed - indexed for MEDLINE]
- ☐ **209:** [Shin MM, Kim YH, Kim SN, Kim GS, Baek JH.](#) Related Articles, Links  
 High extracellular Ca<sup>2+</sup> alone stimulates osteoclast formation but inhibits in the presence of other osteoclastogenic factors.  
Exp Mol Med. 2003 Jun 30;35(3):167-74.  
PMID: 12858015 [PubMed - indexed for MEDLINE]
- ☐ **210:** [Cheng X, Kinoshita M, Murali R, Greene MI.](#) Related Articles, Links  
 The TNF receptor superfamily: role in immune inflammation and bone formation.  
Immunol Res. 2003;27(2-3):287-94. Review.  
PMID: 12857975 [PubMed - indexed for MEDLINE]
- ☐ **211:** [Fizazi K, Yang J, Peleg S, Sikes CR, Kreimann EL, Daliani D, Olive M, Raymond KA, Janus TJ, Logothetis CJ, Karsenty G, Navone NM.](#) Related Articles, Links  
 Prostate cancer cells-osteoblast interaction shifts expression of growth/survival-related genes in prostate cancer and reduces expression of osteoprotegerin in osteoblasts.  
Clin Cancer Res. 2003 Jul;9(7):2587-97.  
PMID: 12855635 [PubMed - indexed for MEDLINE]
- ☐ **212:** [Terpos E, de la Fuente J, Szydlowski R, Hatjiharissi E, Viniou N, Meletis J, Yataganas X, Goldman JM, Rahemtulla A.](#) Related Articles, Links

-  Tartrate-resistant acid phosphatase isoform 5b: a novel serum marker for monitoring bone disease in multiple myeloma.  
Int J Cancer. 2003 Sep 1;106(3):455-7.  
PMID: 12845688 [PubMed - indexed for MEDLINE]
- ☐ **213:** Crotti T, Smith MD, Hirsch R, Soukoulis S, Weedon H, Capone M, Ahern MJ, Haynes D. Related Articles, Links  
 Receptor activator NF kappaB ligand (RANKL) and osteoprotegerin (OPG) protein expression in periodontitis.  
J Periodontal Res. 2003 Aug;38(4):380-7.  
PMID: 12828654 [PubMed - indexed for MEDLINE]
- ☐ **214:** Ikeda T, Seki S, Maki M, Noguchi N, Kawamura T, Arai S, Igari T, Koike M, Hirokawa K. Related Articles, Links  
 Hepatocellular carcinoma with osteoclast-like giant cells: possibility of osteoclastogenesis by hepatocyte-derived cells.  
Pathol Int. 2003 Jul;53(7):450-6.  
PMID: 12828610 [PubMed - indexed for MEDLINE]
- ☐ **215:** Khapli SM, Mangashetti LS, Yogesha SD, Wani MR. Related Articles, Links  
 IL-3 acts directly on osteoclast precursors and irreversibly inhibits receptor activator of NF-kappa B ligand-induced osteoclast differentiation by diverting the cells to macrophage lineage.  
J Immunol. 2003 Jul 1;171(1):142-51.  
PMID: 12816992 [PubMed - indexed for MEDLINE]
- ☐ **216:** Polek TC, Talpaz M, Darnay BG, Spivak-Kroizman T. Related Articles, Links  
 TWEAK mediates signal transduction and differentiation of RAW264.7 cells in the absence of Fn14/TweakR. Evidence for a second TWEAK receptor.  
J Biol Chem. 2003 Aug 22;278(34):32317-23. Epub 2003 Jun 6.  
PMID: 12794080 [PubMed - indexed for MEDLINE]
- ☐ **217:** Walsh MC, Choi Y. Related Articles, Links  
 Biology of the TRANCE axis.  
Cytokine Growth Factor Rev. 2003 Jun-Aug;14(3-4):251-63. Review.  
PMID: 12787563 [PubMed - indexed for MEDLINE]
- ☐ **218:** Liu B, Yu SF, Li TJ. Related Articles, Links  
 Multinucleated giant cells in various forms of giant cell containing lesions of the jaws express features of osteoclasts.  
J Oral Pathol Med. 2003 Jul;32(6):367-75.  
PMID: 12787044 [PubMed - indexed for MEDLINE]
- ☐ **219:** Garber K. Related Articles, Links  
 Why it hurts: researchers seek mechanisms of cancer pain.  
J Natl Cancer Inst. 2003 Jun 4;95(11):770-2. No abstract available.  
PMID: 12783923 [PubMed - indexed for MEDLINE]
- ☐ **220:** Nimmanapalli R, Bhalla K. Related Articles, Links  
 Targets in apoptosis signaling: promise of selective anticancer therapy.  
Methods Mol Biol. 2003;223:465-83. Review. No abstract available.  
PMID: 12777745 [PubMed - indexed for MEDLINE]
- ☐ **221:** Cheung J, Mak YT, Papaioannou S, Evans BA, Fogelman I. Related Articles, Links



Hampson G.



Interleukin-6 (IL-6), IL-1, receptor activator of nuclear factor kappaB ligand (RANKL) and osteoprotegerin production by human osteoblastic cells: comparison of the effects of 17-beta oestradiol and raloxifene. J Endocrinol. 2003 Jun;177(3):423-33. PMID: 12773123 [PubMed - indexed for MEDLINE]

☐ **222:** Kanatani M, Sugimoto T, Kano J, Kanzawa M, Chihara K. Related Articles, Links



Effect of high phosphate concentration on osteoclast differentiation as well as bone-resorbing activity. J Cell Physiol. 2003 Jul;196(1):180-9. PMID: 12767054 [PubMed - indexed for MEDLINE]

☐ **223:** Kubota K, Wakabayashi K, Matsuoka T. Related Articles, Links



Proteome analysis of secreted proteins during osteoclast differentiation using two different methods: two-dimensional electrophoresis and isotope-coded affinity tags analysis with two-dimensional chromatography. Proteomics. 2003 May;3(5):616-26. PMID: 12748942 [PubMed - indexed for MEDLINE]

☐ **224:** Boyle WJ, Simonet WS, Lacey DL. Related Articles, Links



Osteoclast differentiation and activation. Nature. 2003 May 15;423(6937):337-42. Review. PMID: 12748652 [PubMed - indexed for MEDLINE]

☐ **225:** Wong T, Majchrzak B, Bogoch E, Keystone EC, Fish EN. Related Articles, Links



Therapeutic implications for interferon-alpha in arthritis: a pilot study. J Rheumatol. 2003 May;30(5):934-40. PMID: 12734885 [PubMed - indexed for MEDLINE]

☐ **226:** Tanaka S, Nakamura I, Inoue J, Oda H, Nakamura K. Related Articles, Links



Signal transduction pathways regulating osteoclast differentiation and function. J Bone Miner Metab. 2003;21(3):123-33. Review. No abstract available. PMID: 12720046 [PubMed - indexed for MEDLINE]

☐ **227:** Nakashima T, Wada T, Penninger JM. Related Articles, Links



RANKL and RANK as novel therapeutic targets for arthritis. Curr Opin Rheumatol. 2003 May;15(3):280-7. Review. PMID: 12707582 [PubMed - indexed for MEDLINE]

☐ **228:** Enomoto H, Shiojiri S, Hoshi K, Furuichi T, Fukuyama R, Yoshida CA, Kanatani N, Nakamura R, Mizuno A, Zanma A, Yano K, Yasuda H, Higashio K, Takada K, Komori T. Related Articles, Links



Induction of osteoclast differentiation by Runx2 through receptor activator of nuclear factor-kappa B ligand (RANKL) and osteoprotegerin regulation and partial rescue of osteoclastogenesis in Runx2-/- mice by RANKL transgene. J Biol Chem. 2003 Jun 27;278(26):23971-7. Epub 2003 Apr 15. PMID: 12697767 [PubMed - indexed for MEDLINE]

☐ **229:** Eghbali-Fatourehchi G, Khosla S, Sanyal A, Boyle WJ, Lacey DL, Riggs BL. Related Articles, Links



Role of RANK ligand in mediating increased bone resorption in early postmenopausal women.

J Clin Invest. 2003 Apr;111(8):1221-30.

PMID: 12697741 [PubMed - indexed for MEDLINE]

☐ **230:** [Bell NH.](#)

[Related Articles, Links](#)



RANK ligand and the regulation of skeletal remodeling.

J Clin Invest. 2003 Apr;111(8):1120-2. No abstract available.

PMID: 12697730 [PubMed - indexed for MEDLINE]

☐ **231:** [Dovio A, Sartori ML, Masera RG, Ceoloni B, Reimondo G, Prolo P, Racca S, Angeli A.](#)

[Related Articles, Links](#)



Autocrine down-regulation of glucocorticoid receptors by interleukin-11 in human osteoblast-like cell lines.

J Endocrinol. 2003 Apr;177(1):109-17.

PMID: 12697042 [PubMed - indexed for MEDLINE]

☐ **232:** [Moreno JL, Kaczmarek M, Keegan AD, Tondravi M.](#)

[Related Articles, Links](#)



IL-4 suppresses osteoclast development and mature osteoclast function by a STAT6-dependent mechanism: irreversible inhibition of the differentiation program activated by RANKL.

Blood. 2003 Aug 1;102(3):1078-86. Epub 2003 Apr 10.

PMID: 12689929 [PubMed - indexed for MEDLINE]

☐ **233:** [Terpos E, Szydlo R, Apperley JF, Hatjiharissi E, Politou M, Meletis J, Viniou N, Yataganas X, Goldman JM, Rahemtulla A.](#)

[Related Articles, Links](#)



Soluble receptor activator of nuclear factor kappaB ligand-osteoprotegerin ratio predicts survival in multiple myeloma: proposal for a novel prognostic index.

Blood. 2003 Aug 1;102(3):1064-9. Epub 2003 Apr 10.

PMID: 12689925 [PubMed - indexed for MEDLINE]

☐ **234:** [Locklin RM, Khosla S, Turner RT, Riggs BL.](#)

[Related Articles, Links](#)



Mediators of the biphasic responses of bone to intermittent and continuously administered parathyroid hormone.

J Cell Biochem. 2003 May 1;89(1):180-90.

PMID: 12682918 [PubMed - indexed for MEDLINE]

☐ **235:** [Zaidi M, Blair HC, Moonga BS, Abe E, Huang CL.](#)

[Related Articles, Links](#)



Osteoclastogenesis, bone resorption, and osteoclast-based therapeutics.

J Bone Miner Res. 2003 Apr;18(4):599-609. Review.

PMID: 12674320 [PubMed - indexed for MEDLINE]

☐ **236:** [Huang L, Cheng YY, Chow LT, Zheng MH, Kumta SM.](#)

[Related Articles, Links](#)



Receptor activator of NF-kappaB ligand (RANKL) is expressed in chondroblastoma: possible involvement in osteoclastic giant cell recruitment.

Mol Pathol. 2003 Apr;56(2):116-20.

PMID: 12665629 [PubMed - indexed for MEDLINE]

☐ **237:** [Okada Y, Montero A, Zhang X, Sobue T, Lorenzo J, Doetschman T, Coffin JD, Hurley MM.](#)

[Related Articles, Links](#)



Impaired osteoclast formation in bone marrow cultures of Fgf2 null mice in response to parathyroid hormone.

J Biol Chem. 2003 Jun 6;278(23):21258-66. Epub 2003 Mar 28.

PMID: 12665515 [PubMed - indexed for MEDLINE]

- ☐ **238:** [Szalay F, Hegedus D, Lakatos PL, Tornai I, Bajnok E, Dunkel K, Lakatos P.](#) Related Articles, Links



High serum osteoprotegerin and low RANKL in primary biliary cirrhosis.

J Hepatol. 2003 Apr;38(4):395-400.

PMID: 12663228 [PubMed - indexed for MEDLINE]

- ☐ **239:** [Schoppet M, Schaefer JR, Hofbauer LC.](#) Related Articles, Links



Low serum levels of soluble RANK ligand are associated with the presence of coronary artery disease in men.

Circulation. 2003 Mar 25;107(11):e76; author reply e76. No abstract available.

PMID: 12654623 [PubMed - indexed for MEDLINE]

- ☐ **240:** [Varsani H, Patel A, van Kooyk Y, Woo P, Wedderburn LR.](#) Related Articles, Links



Synovial dendritic cells in juvenile idiopathic arthritis (JIA) express receptor activator of NF-kappaB (RANK).

Rheumatology (Oxford). 2003 Apr;42(4):583-90.

PMID: 12649407 [PubMed - indexed for MEDLINE]

- ☐ **241:** [Fox SW, Haque SJ, Lovibond AC, Chambers TJ.](#) Related Articles, Links



The possible role of TGF-beta-induced suppressors of cytokine signaling expression in osteoclast/macrophage lineage commitment in vitro.

J Immunol. 2003 Apr 1;170(7):3679-87.

PMID: 12646633 [PubMed - indexed for MEDLINE]

- ☐ **242:** [Takahashi E, Mukohyama H, Aoki K, Duarte WR, Lerner UH, Ohya K, Omura K, Kasugai S.](#) Related Articles, Links



High extracellular calcium affects osteoclastogenesis in mouse bone marrow cell culture.

J Med Dent Sci. 2002 Dec;49(4):109-20.

PMID: 12641381 [PubMed - indexed for MEDLINE]

- ☐ **243:** [Ritchlin CT, Haas-Smith SA, Li P, Hicks DG, Schwarz EM.](#) Related Articles, Links



Mechanisms of TNF-alpha- and RANKL-mediated osteoclastogenesis and bone resorption in psoriatic arthritis.

J Clin Invest. 2003 Mar;111(6):821-31.

PMID: 12639988 [PubMed - indexed for MEDLINE]

- ☐ **244:** [Ha H, Kwak HB, Lee SK, Na DS, Rudd CE, Lee ZH, Kim HH.](#) Related Articles, Links



Membrane rafts play a crucial role in receptor activator of nuclear factor kappaB signaling and osteoclast function.

J Biol Chem. 2003 May 16;278(20):18573-80. Epub 2003 Mar 11.

PMID: 12637570 [PubMed - indexed for MEDLINE]

- ☐ **245:** [Alvarez L, Peris P, Guanabens N, Vidal S, Ros I, Pons F, Filella X, Monegal A, Munoz-Gomez J, Ballesta AM.](#) Related Articles, Links











Serum osteoprotegerin and its ligand in Paget's disease of bone: relationship to disease activity and effect of treatment with bisphosphonates.

Arthritis Rheum. 2003 Mar;48(3):824-8.

PMID: 12632438 [PubMed - indexed for MEDLINE]

- ☐ **246:** [Koshihara Y, Hoshi K, Okawara R, Ishibashi H, Yamamoto S.](#) Related Articles, Links

-  Vitamin K stimulates osteoblastogenesis and inhibits osteoclastogenesis in human bone marrow cell culture.  
J Endocrinol. 2003 Mar;176(3):339-48.  
PMID: 12630919 [PubMed - indexed for MEDLINE]
- ☐ **247:** [Ueland T, Brixen K, Mosekilde L, Mosekilde L, Flyvbjerg A, Bollerslev J.](#) Related Articles, Links
-  Age-related changes in cortical bone content of insulin-like growth factor binding protein (IGFBP)-3, IGFBP-5, osteoprotegerin, and calcium in postmenopausal osteoporosis: a cross-sectional study.  
J Clin Endocrinol Metab. 2003 Mar;88(3):1014-8.  
PMID: 12629078 [PubMed - indexed for MEDLINE]
- ☐ **248:** [Wiethe C, Dittmar K, Doan T, Lindenmaier W, Tindle R.](#) Related Articles, Links
-  Provision of 4-1BB ligand enhances effector and memory CTL responses generated by immunization with dendritic cells expressing a human tumor-associated antigen.  
J Immunol. 2003 Mar 15;170(6):2912-22.  
PMID: 12626542 [PubMed - indexed for MEDLINE]
- ☐ **249:** [Siggelkow H, Eidner T, Lehmann G, Viereck V, Raddatz D, Munzel U, Hein G, Hufner M.](#) Related Articles, Links
-  Cytokines, osteoprotegerin, and RANKL in vitro and histomorphometric indices of bone turnover in patients with different bone diseases.  
J Bone Miner Res. 2003 Mar;18(3):529-38.  
PMID: 12619938 [PubMed - indexed for MEDLINE]
- ☐ **250:** [Hamzei M, Ventriglia G, Hagnia M, Antonopolous A, Bernal-Sprekelsen M, Dazert S, Hildmann H, Sudhoff H.](#) Related Articles, Links
-  Osteoclast stimulating and differentiating factors in human cholesteatoma.  
Laryngoscope. 2003 Mar;113(3):436-42.  
PMID: 12616193 [PubMed - indexed for MEDLINE]
- ☐ **251:** [Shipman CM, Croucher PJ.](#) Related Articles, Links
-  Osteoprotegerin is a soluble decoy receptor for tumor necrosis factor-related apoptosis-inducing ligand/Apo2 ligand and can function as a paracrine survival factor for human myeloma cells.  
Cancer Res. 2003 Mar 1;63(5):912-6.  
PMID: 12615702 [PubMed - indexed for MEDLINE]
- ☐ **252:** [Tyson KL, Reynolds JL, McNair R, Zhang Q, Weissberg PL, Shanahan CM.](#) Related Articles, Links
-  Osteo/chondrocytic transcription factors and their target genes exhibit distinct patterns of expression in human arterial calcification.  
Arterioscler Thromb Vasc Biol. 2003 Mar 1;23(3):489-94. Epub 2003 Jan 30.  
PMID: 12615658 [PubMed - indexed for MEDLINE]
- ☐ **253:** [Stajszczyk M.](#) Related Articles, Links
-  [Role of receptor activator of nuclear factor kappa B (RANK), its ligand (RANK-L) and osteoprotegerin (OPG) in bone metabolism]  
Pol Arch Med Wewn. 2002 Sep;108(3):915-24. Review. Polish. No abstract available.  
PMID: 12600190 [PubMed - indexed for MEDLINE]
- ☐ **254:** [Lubberts E, van den Bersselaar L, Oppers-Walgreen B, Schwarzenberger P, Coenen-de Roo CJ, Kolls JK, Joosten LA.](#) Related Articles, Links

van den Berg WB.



IL-17 promotes bone erosion in murine collagen-induced arthritis through loss of the receptor activator of NF-kappa B ligand/osteoprotegerin balance.

J Immunol. 2003 Mar 1;170(5):2655-62.

PMID: 12594294 [PubMed - indexed for MEDLINE]



**255:** Lanzi R, Losa M, Villa I, Gatti E, Sirtori M, Dal Fiume C, Rubinacci A.

[Related Articles](#), [Links](#)



GH replacement therapy increases plasma osteoprotegerin levels in GH-deficient adults.

Eur J Endocrinol. 2003 Feb;148(2):185-91.

PMID: 12590637 [PubMed - indexed for MEDLINE]



**256:** Kudo O, Sabokbar A, Pocock A, Itonaga I, Fujikawa Y, Athanasou NA.

[Related Articles](#), [Links](#)



Interleukin-6 and interleukin-11 support human osteoclast formation by a RANKL-independent mechanism.

Bone. 2003 Jan;32(1):1-7.

PMID: 12584029 [PubMed - indexed for MEDLINE]



**257:** Rifas L, Arackal S, Weitzmann MN.

[Related Articles](#), [Links](#)



Inflammatory T cells rapidly induce differentiation of human bone marrow stromal cells into mature osteoblasts.

J Cell Biochem. 2003 Mar 1;88(4):650-9.

PMID: 12577299 [PubMed - indexed for MEDLINE]



**258:** Yu Q, Gu JX, Kovacs C, Freedman J, Thomas EK, Ostrowski MA.

[Related Articles](#), [Links](#)



Cooperation of TNF family members CD40 ligand, receptor activator of NF-kappa B ligand, and TNF-alpha in the activation of dendritic cells and the expansion of viral specific CD8+ T cell memory responses in HIV-1-infected and HIV-1-uninfected individuals.

J Immunol. 2003 Feb 15;170(4):1797-805.

PMID: 12574344 [PubMed - indexed for MEDLINE]



**259:** Gallo J, Kaminek P, Ticha V, Rihakova P, Ditmar R.

[Related Articles](#), [Links](#)



Particle disease. A comprehensive theory of periprosthetic osteolysis: a review.

Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub. 2002 Dec;146(2):21-8. Review.

PMID: 12572890 [PubMed - indexed for MEDLINE]



**260:** Clohisy JC, Frazier E, Hirayama T, Abu-Amer Y.

[Related Articles](#), [Links](#)



RANKL is an essential cytokine mediator of polymethylmethacrylate particle-induced osteoclastogenesis.

J Orthop Res. 2003 Mar;21(2):202-12.

PMID: 12568950 [PubMed - indexed for MEDLINE]



**261:** Cao J, Venton L, Sakata T, Halloran BP.

[Related Articles](#), [Links](#)



Expression of RANKL and OPG correlates with age-related bone loss in male C57BL/6 mice.

J Bone Miner Res. 2003 Feb;18(2):270-7.

PMID: 12568404 [PubMed - indexed for MEDLINE]

- ☐ **262:** [Xing L, Carlson L, Story B, Tai Z, Keng P, Siebenlist U, Boyce BF.](#) [Related Articles, Links](#)



Expression of either NF-kappaB p50 or p52 in osteoclast precursors is required for IL-1-induced bone resorption.  
J Bone Miner Res. 2003 Feb;18(2):260-9.  
PMID: 12568403 [PubMed - indexed for MEDLINE]

- ☐ **263:** [Buckley KA, Fraser WD.](#) [Related Articles, Links](#)



Receptor activator for nuclear factor kappaB ligand and osteoprotegerin: regulators of bone physiology and immune responses/potential therapeutic agents and biochemical markers.  
Ann Clin Biochem. 2002 Nov;39(Pt 6):551-6. Review.  
PMID: 12564836 [PubMed - indexed for MEDLINE]

- ☐ **264:** [Oyajobi BO, Mundy GR.](#) [Related Articles, Links](#)



Receptor activator of NF-kappaB ligand, macrophage inflammatory protein-1alpha, and the proteasome: novel therapeutic targets in myeloma.  
Cancer. 2003 Feb 1;97(3 Suppl):813-7.  
PMID: 12548580 [PubMed - indexed for MEDLINE]

- ☐ **265:** [Sordillo EM, Pearse RN.](#) [Related Articles, Links](#)



RANK-Fc: a therapeutic antagonist for RANK-L in myeloma.  
Cancer. 2003 Feb 1;97(3 Suppl):802-12. Review.  
PMID: 12548579 [PubMed - indexed for MEDLINE]

- ☐ **266:** [Kato I, Sato H, Kudo A.](#) [Related Articles, Links](#)



TRANCE together with IL-7 induces pre-B cells to proliferate.  
Eur J Immunol. 2003 Feb;33(2):334-41.  
PMID: 12548564 [PubMed - indexed for MEDLINE]

- ☐ **267:** [Clohisy D.](#) [Related Articles, Links](#)



Cellular mechanisms of osteolysis.  
J Bone Joint Surg Am. 2003;85-A Suppl 1:S4-6. No abstract available.  
PMID: 12540662 [PubMed - indexed for MEDLINE]

- ☐ **268:** [Keller ET.](#) [Related Articles, Links](#)



The role of osteoclastic activity in prostate cancer skeletal metastases.  
Drugs Today (Barc). 2002 Feb;38(2):91-102. Review.  
PMID: 12532187 [PubMed - indexed for MEDLINE]

- ☐ **269:** [Woo KM, Choi Y, Ko SH, Ko JS, Oh KO, Kim KK.](#) [Related Articles, Links](#)



Osteoprotegerin is present on the membrane of osteoclasts isolated from mouse long bones.  
Exp Mol Med. 2002 Nov 30;34(5):347-52.  
PMID: 12526098 [PubMed - indexed for MEDLINE]

- ☐ **270:** [Holliday LS, Welgus HG, Hanna J, Lee BS, Lu M, Jeffrey JJ, Gluck SL.](#) [Related Articles, Links](#)



Interstitial collagenase activity stimulates the formation of actin rings and ruffled membranes in mouse marrow osteoclasts.  
Calcif Tissue Int. 2003 Mar;72(3):206-14. Epub 2003 Jan 15.  
PMID: 12522662 [PubMed - indexed for MEDLINE]

[Suda T, Ueno Y, Fujii K, Shinki T.](#)

[Related Articles, Links](#)

☐ 271:



Vitamin D and bone.

J Cell Biochem. 2003 Feb 1;88(2):259-66. Review.

PMID: 12520524 [PubMed - indexed for MEDLINE]

☐ 272: Berenson JR.

Related Articles, Links



Advances in the biology and treatment of myeloma bone disease.

Semin Oncol. 2002 Dec;29(6 Suppl 17):11-6. Review.

PMID: 12520479 [PubMed - indexed for MEDLINE]

☐ 273: Haynes DR, Barg E, Crotti TN, Holding C, Weedon H, Atkins GJ, Zannettino A, Ahern MJ, Coleman M, Roberts-Thomson PJ, Kraan M, Tak PP, Smith MD.

Related Articles, Links



Osteoprotegerin expression in synovial tissue from patients with rheumatoid arthritis, spondyloarthropathies and osteoarthritis and normal controls.

Rheumatology (Oxford). 2003 Jan;42(1):123-34.

PMID: 12509625 [PubMed - indexed for MEDLINE]

☐ 274: Elhasid R, Hofbauer LC, Ish-Shalom S, Ben-Arush M, Koc O, Rowe JM, Etzioni A.

Related Articles, Links



Familial severe congenital neutropenia associated with infantile osteoporosis: a new entity.

Am J Hematol. 2003 Jan;72(1):34-7.

PMID: 12508266 [PubMed - indexed for MEDLINE]

☐ 275: Toraldo G, Roggia C, Qian WP, Pacifici R, Weitzmann MN.

Related Articles, Links



IL-7 induces bone loss in vivo by induction of receptor activator of nuclear factor kappa B ligand and tumor necrosis factor alpha from T cells.

Proc Natl Acad Sci U S A. 2003 Jan 7;100(1):125-30. Epub 2002 Dec 18.

PMID: 12490655 [PubMed - indexed for MEDLINE]

☐ 276: Hasegawa T, Yoshimura Y, Kikuri T, Yawaka Y, Takeyama S, Matsumoto A, Oguchi H, Shirakawa T.

Related Articles, Links



Expression of receptor activator of NF-kappa B ligand and osteoprotegerin in culture of human periodontal ligament cells.

J Periodontal Res. 2002 Dec;37(6):405-11.

PMID: 12472833 [PubMed - indexed for MEDLINE]

☐ 277: Liu D, Xu JK, Figliomeni L, Huang L, Pavlos NJ, Rogers M, Tan A, Price P, Zheng MH.

Related Articles, Links



Expression of RANKL and OPG mRNA in periodontal disease: possible involvement in bone destruction.

Int J Mol Med. 2003 Jan;11(1):17-21.

PMID: 12469211 [PubMed - indexed for MEDLINE]

☐ 278: Shimizu-Ishiura M, Kawana F, Sasaki T.

Related Articles, Links










Osteoprotegerin administration reduces femoral bone loss in ovariectomized mice via impairment of osteoclast structure and function.

J Electron Microsc (Tokyo). 2002;51(5):315-25.









PMID: 12455916 [PubMed - indexed for MEDLINE]

☐ 279: Hofbauer LC, Schoppet M.

Related Articles, Links

-  Osteoprotegerin deficiency and juvenile Paget's disease.  
N Engl J Med. 2002 Nov 14;347(20):1622-3; author reply 1622-3. No abstract available.  
PMID: 12432053 [PubMed - indexed for MEDLINE]
- ☐ **280:** Lubberts E, Oppers-Walgreen B, Pettit AR, Van Den Bersselaar L, Joosten LA, Goldring SR, Gravallese EM, Van Den Berg WB. Related Articles, Links  
Increase in expression of receptor activator of nuclear factor kappaB at sites of bone erosion correlates with progression of inflammation in evolving collagen-induced arthritis.  
Arthritis Rheum. 2002 Nov;46(11):3055-64.  
PMID: 12428250 [PubMed - indexed for MEDLINE]
- ☐ **281:** Stejskal D, Bartek J, Pastorkova R, Ruzicka V, Oral I, Horalik D. Related Articles, Links  
Osteoprotegerin, RANK, RANKL.  
Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub. 2001 Dec;145(2):61-4. Review.  
PMID: 12426773 [PubMed - indexed for MEDLINE]
- ☐ **282:** Sezer O, Heider U, Zavrski I, Kuhne CA, Hofbauer LC. Related Articles, Links  
 RANK ligand and osteoprotegerin in myeloma bone disease.  
Blood. 2003 Mar 15;101(6):2094-8. Epub 2002 Nov 7. Review.  
PMID: 12424190 [PubMed - indexed for MEDLINE]
- ☐ **283:** Hu Y, Yu S. Related Articles, Links  
 Gene expression of osteoprotegerin and osteoclast differentiation factor in giant cell tumor.  
Zhonghua Bing Li Xue Za Zhi. 2002 Apr;31(2):128-31.  
PMID: 12419159 [PubMed - indexed for MEDLINE]
- ☐ **284:** Zhao S, Zhang YK, Harris S, Ahuja SS, Bonewald LF. Related Articles, Links  
 MLO-Y4 osteocyte-like cells support osteoclast formation and activation.  
J Bone Miner Res. 2002 Nov;17(11):2068-79.  
PMID: 12412815 [PubMed - indexed for MEDLINE]
- ☐ **285:** Hegedus D, Ferencz V, Lakatos PL, Meszaros S, Lakatos P, Horvath C, Szalay F. Related Articles, Links  
 Decreased bone density, elevated serum osteoprotegerin, and beta-cross-laps in Wilson disease.  
J Bone Miner Res. 2002 Nov;17(11):1961-7.  
PMID: 12412803 [PubMed - indexed for MEDLINE]
- ☐ **286:** Roodman GD. Related Articles, Links  
 Role of the bone marrow microenvironment in multiple myeloma.  
J Bone Miner Res. 2002 Nov;17(11):1921-5.  
PMID: 12412796 [PubMed - indexed for MEDLINE]
- ☐ **287:** Yamada T, Yamazaki H, Yamane T, Yoshino M, Okuyama H, Tsuneto M, Kurino T, Hayashi S, Sakano S. Related Articles, Links  
 Regulation of osteoclast development by Notch signaling directed to osteoclast precursors and through stromal cells.  
Blood. 2003 Mar 15;101(6):2227-34. Epub 2002 Oct 31.  
PMID: 12411305 [PubMed - indexed for MEDLINE]



- ☐ **288:** [Jung K, Lein M, Hosslin K, Grosse A, Roth S, Possinger K, Luftner D.](#) Related Articles, Links  
Osteoprotegerin and receptor activator of nuclear factor-kappaB ligand (RANKL) in the serum of healthy adults.  
Int J Biol Markers. 2002 Jul-Sep;17(3):177-81.  
PMID: 12408468 [PubMed - indexed for MEDLINE]
-  Osteoprotegerin and receptor activator of nuclear factor-kappaB ligand (RANKL) in the serum of healthy adults.  
Int J Biol Markers. 2002 Jul-Sep;17(3):177-81.  
PMID: 12408468 [PubMed - indexed for MEDLINE]
- ☐ **289:** [Okada Y, Morimoto I, Ura K, Watanabe K, Eto S, Kumegawa M, Raisz L, Pilbeam C, Tanaka Y.](#) Related Articles, Links  
Cell-to-Cell adhesion via intercellular adhesion molecule-1 and leukocyte function-associated antigen-1 pathway is involved in 1alpha,25(OH)2D3, PTH and IL-1alpha-induced osteoclast differentiation and bone resorption.  
Endocr J. 2002 Aug;49(4):483-95.  
PMID: 12402981 [PubMed - indexed for MEDLINE]
-  Cell-to-Cell adhesion via intercellular adhesion molecule-1 and leukocyte function-associated antigen-1 pathway is involved in 1alpha,25(OH)2D3, PTH and IL-1alpha-induced osteoclast differentiation and bone resorption.  
Endocr J. 2002 Aug;49(4):483-95.  
PMID: 12402981 [PubMed - indexed for MEDLINE]
- ☐ **290:** [Chikatsu N, Takeuchi Y, Fukumoto S, Yano K, Fujita N, Tsuruo T, Fujita T.](#) Related Articles, Links  
Clonal endothelial cells produce humoral factors that inhibit osteoclast-like cell formation in vitro.  
Endocr J. 2002 Aug;49(4):439-47.  
PMID: 12402976 [PubMed - indexed for MEDLINE]
-  Clonal endothelial cells produce humoral factors that inhibit osteoclast-like cell formation in vitro.  
Endocr J. 2002 Aug;49(4):439-47.  
PMID: 12402976 [PubMed - indexed for MEDLINE]
- ☐ **291:** [Giuliani N, Colla S, Sala R, Moroni M, Lazzaretti M, La Monica S, Bonomini S, Hojden M, Sammarelli G, Barille S, Bataille R, Rizzoli V.](#) Related Articles, Links  
Human myeloma cells stimulate the receptor activator of nuclear factor-kappa B ligand (RANKL) in T lymphocytes: a potential role in multiple myeloma bone disease.  
Blood. 2002 Dec 15;100(13):4615-21. Epub 2002 Aug 8.  
PMID: 12393684 [PubMed - indexed for MEDLINE]
-  Human myeloma cells stimulate the receptor activator of nuclear factor-kappa B ligand (RANKL) in T lymphocytes: a potential role in multiple myeloma bone disease.  
Blood. 2002 Dec 15;100(13):4615-21. Epub 2002 Aug 8.  
PMID: 12393684 [PubMed - indexed for MEDLINE]
- ☐ **292:** [Cremer I, Dieu-Nosjean MC, Marechal S, Dezutter-Dambuyant C, Goddard S, Adams D, Winter N, Menetrier-Caux C, Sautes-Fridman C, Fridman WH, Mueller CG.](#) Related Articles, Links  
Long-lived immature dendritic cells mediated by TRANCE-RANK interaction.  
Blood. 2002 Nov 15;100(10):3646-55. Epub 2002 Jul 5.  
PMID: 12393586 [PubMed - indexed for MEDLINE]
-  Long-lived immature dendritic cells mediated by TRANCE-RANK interaction.  
Blood. 2002 Nov 15;100(10):3646-55. Epub 2002 Jul 5.  
PMID: 12393586 [PubMed - indexed for MEDLINE]
- ☐ **293:** [Nagasawa T, Kobayashi H, Kiji M, Aramaki M, Mahanonda R, Kojima T, Murakami Y, Saito M, Morotome Y, Ishikawa I.](#) Related Articles, Links  
LPS-stimulated human gingival fibroblasts inhibit the differentiation of monocytes into osteoclasts through the production of osteoprotegerin.  
Clin Exp Immunol. 2002 Nov;130(2):338-44.  
PMID: 12390325 [PubMed - indexed for MEDLINE]
-  LPS-stimulated human gingival fibroblasts inhibit the differentiation of monocytes into osteoclasts through the production of osteoprotegerin.  
Clin Exp Immunol. 2002 Nov;130(2):338-44.  
PMID: 12390325 [PubMed - indexed for MEDLINE]
- ☐ **294:** [Suda T, Shima N, Higashio K.](#) Related Articles, Links  
[Merger of bone biology and immunology]  
Tanpakushitsu Kakusan Koso. 2002 Oct;47(13):1837-43. Review. Japanese. No abstract available.  
PMID: 12385106 [PubMed - indexed for MEDLINE]
-  [Merger of bone biology and immunology]  
Tanpakushitsu Kakusan Koso. 2002 Oct;47(13):1837-43. Review. Japanese. No abstract available.  
PMID: 12385106 [PubMed - indexed for MEDLINE]
- ☐ **295:** [Gravallese EM.](#) Related Articles, Links  
Bone destruction in arthritis.  
Ann Rheum Dis. 2002 Nov;61 Suppl 2:ii84-6. Review.
-  Bone destruction in arthritis.  
Ann Rheum Dis. 2002 Nov;61 Suppl 2:ii84-6. Review.

PMID: 12379632 [PubMed - indexed for MEDLINE]

☐ **296:** Jones DH, Kong YY, Penninger JM.

[Related Articles](#), [Links](#)



Role of RANKL and RANK in bone loss and arthritis.  
Ann Rheum Dis. 2002 Nov;61 Suppl 2:ii32-9. Review.  
PMID: 12379618 [PubMed - indexed for MEDLINE]

☐ **297:** Romas E, Sims NA, Hards DK, Lindsay M, Quinn JW, Ryan PF, Dunstan CR, Martin TJ, Gillespie MT.

[Related Articles](#), [Links](#)



Osteoprotegerin reduces osteoclast numbers and prevents bone erosion in collagen-induced arthritis.  
Am J Pathol. 2002 Oct;161(4):1419-27.  
PMID: 12368214 [PubMed - indexed for MEDLINE]

☐ **298:** Fu Q, Jilka RL, Manolagas SC, O'Brien CA.

[Related Articles](#), [Links](#)



Parathyroid hormone stimulates receptor activator of NFkappa B ligand and inhibits osteoprotegerin expression via protein kinase A activation of cAMP-response element-binding protein.  
J Biol Chem. 2002 Dec 13;277(50):48868-75. Epub 2002 Oct 2.  
PMID: 12364326 [PubMed - indexed for MEDLINE]

☐ **299:** DeLaurier A, Allen S, deFlandre C, Horton MA, Price JS.

[Related Articles](#), [Links](#)



Cytokine expression in feline osteoclastic resorptive lesions.  
J Comp Pathol. 2002 Aug-Oct;127(2-3):169-77.  
PMID: 12354528 [PubMed - indexed for MEDLINE]

☐ **300:** Lee SW, Han SI, Kim HH, Lee ZH.

[Related Articles](#), [Links](#)



TAK1-dependent activation of AP-1 and c-Jun N-terminal kinase by receptor activator of NF-kappaB.  
J Biochem Mol Biol. 2002 Jul 31;35(4):371-6.  
PMID: 12296995 [PubMed - indexed for MEDLINE]

☐ **301:** Ferrer Canabate J, Tovar I, Martinez P.

[Related Articles](#), [Links](#)



[Osteoprotegerin and RANKL/RANK system: is it the future of bone metabolism?]  
An Med Interna. 2002 Aug;19(8):385-88. Review. Spanish. No abstract available.  
PMID: 12244784 [PubMed - indexed for MEDLINE]

☐ **302:** Williamson E, Bilsborough JM, Viney JL.

[Related Articles](#), [Links](#)



Regulation of mucosal dendritic cell function by receptor activator of NF-kappa B (RANK)/RANK ligand interactions: impact on tolerance induction.  
J Immunol. 2002 Oct 1;169(7):3606-12.  
PMID: 12244151 [PubMed - indexed for MEDLINE]

☐ **303:** Price PA, June HH, Buckley JR, Williamson MK.

[Related Articles](#), [Links](#)



SB 242784, a selective inhibitor of the osteoclastic V-H+ATPase, inhibits arterial calcification in the rat.  
Circ Res. 2002 Sep 20;91(6):547-52.  
PMID: 12242274 [PubMed - indexed for MEDLINE]

☐ **304:** Hofbauer LC, Maisch B, Schaefer JR.

[Related Articles](#), [Links](#)



High bone density due to a mutation in LDL-receptor-related protein 5.  
N Engl J Med. 2002 Sep 19;347(12):943-4; author reply 943-4. No abstract available.

PMID: 12240686 [PubMed - indexed for MEDLINE]

- ☐ **305:** [Shiotani A, Takami M, Itoh K, Shibasaki Y, Sasaki T.](#) [Related Articles, Links](#)



Regulation of osteoclast differentiation and function by receptor activator of NFkB ligand and osteoprotegerin.

Anat Rec. 2002 Oct 1;268(2):137-46.

PMID: 12221720 [PubMed - indexed for MEDLINE]

- ☐ **306:** [Palmqvist P, Persson E, Conaway HH, Lerner UH.](#) [Related Articles, Links](#)



IL-6, leukemia inhibitory factor, and oncostatin M stimulate bone resorption and regulate the expression of receptor activator of NF-kappa B ligand, osteoprotegerin, and receptor activator of NF-kappa B in mouse calvariae.

J Immunol. 2002 Sep 15;169(6):3353-62.

PMID: 12218157 [PubMed - indexed for MEDLINE]

- ☐ **307:** [Rubin J, Ackert-Bicknell CL, Zhu L, Fan X, Murphy TC, Nanes MS, Marcus R, Holloway L, Beamer WG, Rosen CJ.](#) [Related Articles, Links](#)



IGF-I regulates osteoprotegerin (OPG) and receptor activator of nuclear factor-kappaB ligand in vitro and OPG in vivo.

J Clin Endocrinol Metab. 2002 Sep;87(9):4273-9.

PMID: 12213884 [PubMed - indexed for MEDLINE]

- ☐ **308:** [Kondo H, Guo J, Bringhurst FR.](#) [Related Articles, Links](#)



Cyclic adenosine monophosphate/protein kinase A mediates parathyroid hormone/parathyroid hormone-related protein receptor regulation of osteoclastogenesis and expression of RANKL and osteoprotegerin mRNAs by marrow stromal cells.

J Bone Miner Res. 2002 Sep;17(9):1667-79.

PMID: 12211438 [PubMed - indexed for MEDLINE]

- ☐ **309:** [Hofbauer LC, Kluger S, Kuhne CA, Dunstan CR, Burchert A, Schoppet M, Zielke A, Heufelder AE.](#) [Related Articles, Links](#)



Detection and characterization of RANK ligand and osteoprotegerin in the thyroid gland.

J Cell Biochem. 2002;86(4):642-50.

PMID: 12210731 [PubMed - indexed for MEDLINE]

- ☐ **310:** [Juji T, Hertz M, Aoki K, Horie D, Ohya K, Gautam A, Mouritsen S, Oda H, Nakamura K, Tanaka S.](#) [Related Articles, Links](#)



A novel therapeutic vaccine approach, targeting RANKL, prevents bone destruction in bone-related disorders.

J Bone Miner Metab. 2002;20(5):266-8. Review. No abstract available.

PMID: 12203031 [PubMed - indexed for MEDLINE]

- ☐ **311:** [Fujita T, Shiba H, Sakata M, Uchida Y, Nakamura S, Kurihara H.](#) [Related Articles, Links](#)











SPARC stimulates the synthesis of OPG/OCIF, MMP-2 and DNA in human periodontal ligament cells.

J Oral Pathol Med. 2002 Jul;31(6):345-52. Erratum in: J Oral Pathol Med 2002 Sep;31(8):504.

PMID: 12201246 [PubMed - indexed for MEDLINE]

- ☐ **312:** [Lee SK, Kalinowski J, Jastrzebski S, Lorenzo JA.](#) [Related Articles, Links](#)

1,25(OH)<sub>2</sub> vitamin D<sub>3</sub>-stimulated osteoclast formation in spleen-

-  osteoblast cocultures is mediated in part by enhanced IL-1 alpha and receptor activator of NF-kappa B ligand production in osteoblasts.  
J Immunol. 2002 Sep 1;169(5):2374-80.  
PMID: 12193704 [PubMed - indexed for MEDLINE]
- ☐ **313:** Armstrong AP, Tometsko ME, Glaccum M, Sutherland CL, Cosman D, Dougall WC. [Related Articles, Links](#)  
A RANK/TRAF6-dependent signal transduction pathway is essential for osteoclast cytoskeletal organization and resorptive function.  
J Biol Chem. 2002 Nov 15;277(46):44347-56. Epub 2002 Aug 15.  
PMID: 12185073 [PubMed - indexed for MEDLINE]
-  A RANK/TRAF6-dependent signal transduction pathway is essential for osteoclast cytoskeletal organization and resorptive function.  
J Biol Chem. 2002 Nov 15;277(46):44347-56. Epub 2002 Aug 15.  
PMID: 12185073 [PubMed - indexed for MEDLINE]
- ☐ **314:** Teng YT. [Related Articles, Links](#)  
Mixed periodontal Th1-Th2 cytokine profile in Actinobacillus actinomycetemcomitans-specific osteoprotegerin ligand (or RANK-L)-mediated alveolar bone destruction in vivo.  
Infect Immun. 2002 Sep;70(9):5269-73.  
PMID: 12183580 [PubMed - indexed for MEDLINE]
-  Mixed periodontal Th1-Th2 cytokine profile in Actinobacillus actinomycetemcomitans-specific osteoprotegerin ligand (or RANK-L)-mediated alveolar bone destruction in vivo.  
Infect Immun. 2002 Sep;70(9):5269-73.  
PMID: 12183580 [PubMed - indexed for MEDLINE]
- ☐ **315:** Geoffroy V, Kneissel M, Fournier B, Boyde A, Matthias P. [Related Articles, Links](#)  
High bone resorption in adult aging transgenic mice overexpressing cbfa1/runx2 in cells of the osteoblastic lineage.  
Mol Cell Biol. 2002 Sep;22(17):6222-33.  
PMID: 12167715 [PubMed - indexed for MEDLINE]
-  High bone resorption in adult aging transgenic mice overexpressing cbfa1/runx2 in cells of the osteoblastic lineage.  
Mol Cell Biol. 2002 Sep;22(17):6222-33.  
PMID: 12167715 [PubMed - indexed for MEDLINE]
- ☐ **316:** Lorget F, Clough J, Oliveira M, Daury MC, Sabokbar A, Offord E. [Related Articles, Links](#)  
Lactoferrin reduces in vitro osteoclast differentiation and resorbing activity.  
Biochem Biophys Res Commun. 2002 Aug 16;296(2):261-6.  
PMID: 12163011 [PubMed - indexed for MEDLINE]
-  Lactoferrin reduces in vitro osteoclast differentiation and resorbing activity.  
Biochem Biophys Res Commun. 2002 Aug 16;296(2):261-6.  
PMID: 12163011 [PubMed - indexed for MEDLINE]
- ☐ **317:** Mundy GR. [Related Articles, Links](#)  
Metastasis to bone: causes, consequences and therapeutic opportunities.  
Nat Rev Cancer. 2002 Aug;2(8):584-93. Review.  
PMID: 12154351 [PubMed - indexed for MEDLINE]
-  Metastasis to bone: causes, consequences and therapeutic opportunities.  
Nat Rev Cancer. 2002 Aug;2(8):584-93. Review.  
PMID: 12154351 [PubMed - indexed for MEDLINE]
- ☐ **318:** Grisar J, Bernecker PM, Aringer M, Redlich K, Sedlak M, Wolozczuk W, Spitzauer S, Grampp S, Kainberger F, Ebner W, Smolen JS, Pietschmann P. [Related Articles, Links](#)  
Ankylosing spondylitis, psoriatic arthritis, and reactive arthritis show increased bone resorption, but differ with regard to bone formation.  
J Rheumatol. 2002 Jul;29(7):1430-6.  
PMID: 12136902 [PubMed - indexed for MEDLINE]
-  Ankylosing spondylitis, psoriatic arthritis, and reactive arthritis show increased bone resorption, but differ with regard to bone formation.  
J Rheumatol. 2002 Jul;29(7):1430-6.  
PMID: 12136902 [PubMed - indexed for MEDLINE]
- ☐ **319:** Whyte MP, Obrecht SE, Finnegan PM, Jones JL, Podgornik MN, McAlister WH, Mumm S. [Related Articles, Links](#)  
Osteoprotegerin deficiency and juvenile Paget's disease.  
N Engl J Med. 2002 Jul 18;347(3):175-84.  
PMID: 12124406 [PubMed - indexed for MEDLINE]
-  Osteoprotegerin deficiency and juvenile Paget's disease.  
N Engl J Med. 2002 Jul 18;347(3):175-84.  
PMID: 12124406 [PubMed - indexed for MEDLINE]
- ☐ **320:** Ueland T, Bollerslev J, Mosekilde L. [Related Articles, Links](#)  
[Osteoclast function is regulated by neighbouring osteoblasts. Osteoprotegerin, RANK and RANK ligand constitute a unique regulatory system for bone resorption with important pathophysiological

and therapeutic aspects]

Ugeskr Laeger. 2002 Jul 1;164(27):3526-30. Review. Danish.  
PMID: 12116680 [PubMed - indexed for MEDLINE]

☐ **321:** [Canalis E, Delany AM.](#)

[Related Articles, Links](#)



Mechanisms of glucocorticoid action in bone.  
Ann N Y Acad Sci. 2002 Jun;966:73-81. Review.  
PMID: 12114261 [PubMed - indexed for MEDLINE]

☐ **322:** [Lee SK, Lorenzo JA.](#)

[Related Articles, Links](#)



Regulation of receptor activator of nuclear factor-kappa B ligand and osteoprotegerin mRNA expression by parathyroid hormone is predominantly mediated by the protein kinase a pathway in murine bone marrow cultures.  
Bone. 2002 Jul;31(1):252-9.  
PMID: 12110442 [PubMed - indexed for MEDLINE]

☐ **323:** [Koyama H, Nakade O, Takada Y, Kaku T, Lau KH.](#)

[Related Articles, Links](#)



Melatonin at pharmacologic doses increases bone mass by suppressing resorption through down-regulation of the RANKL-mediated osteoclast formation and activation.  
J Bone Miner Res. 2002 Jul;17(7):1219-29.  
PMID: 12096835 [PubMed - indexed for MEDLINE]

☐ **324:** [Zou W, Bar-Shavit Z.](#)

[Related Articles, Links](#)



Dual modulation of osteoclast differentiation by lipopolysaccharide.  
J Bone Miner Res. 2002 Jul;17(7):1211-8.  
PMID: 12096834 [PubMed - indexed for MEDLINE]

☐ **325:** [Xing L, Bushnell TP, Carlson L, Tai Z, Tondravi M, Siebenlist U, Young F, Boyce BF.](#)

[Related Articles, Links](#)



NF-kappaB p50 and p52 expression is not required for RANK-expressing osteoclast progenitor formation but is essential for RANK- and cytokine-mediated osteoclastogenesis.  
J Bone Miner Res. 2002 Jul;17(7):1200-10.  
PMID: 12096833 [PubMed - indexed for MEDLINE]

☐ **326:** [Price PA, Caputo JM, Williamson MK.](#)

[Related Articles, Links](#)



Bone origin of the serum complex of calcium, phosphate, fetuin, and matrix Gla protein: biochemical evidence for the cancellous bone-remodeling compartment.  
J Bone Miner Res. 2002 Jul;17(7):1171-9.  
PMID: 12096831 [PubMed - indexed for MEDLINE]

☐ **327:** [Kim YH, Kim GS, Jeong-Hwa B.](#)

[Related Articles, Links](#)



Inhibitory action of bisphosphonates on bone resorption does not involve the regulation of RANKL and OPG expression.  
Exp Mol Med. 2002 May 31;34(2):145-51.  
PMID: 12085990 [PubMed - indexed for MEDLINE]

☐ **328:** [Zhang J, Fu M, Myles D, Zhu X, Du J, Cao X, Chen YE.](#)

[Related Articles, Links](#)



PDGF induces osteoprotegerin expression in vascular smooth muscle cells by multiple signal pathways.  
FEBS Lett. 2002 Jun 19;521(1-3):180-4.

PMID: 12067713 [PubMed - indexed for MEDLINE]

- ☐ **329:** [Ueland T, Bollerslev J, Flyvbjerg A, Hansen TB, Vahl N, Mosekilde L.](#) [Related Articles, Links](#)



Effects of 12 months of GH treatment on cortical and trabecular bone content of IGFs and OPG in adults with acquired GH deficiency: a double-blind, randomized, placebo-controlled study.

J Clin Endocrinol Metab. 2002 Jun;87(6):2760-3.

PMID: 12050246 [PubMed - indexed for MEDLINE]

- ☐ **330:** [Lossdorfer S, Gotz W, Jager A.](#) [Related Articles, Links](#)



Immunohistochemical localization of receptor activator of nuclear factor kappaB (RANK) and its ligand (RANKL) in human deciduous teeth.

Calcif Tissue Int. 2002 Jul;71(1):45-52. Epub 2002 Jun 4.

PMID: 12043011 [PubMed - indexed for MEDLINE]

- ☐ **331:** [Li X, Tomita M, Pilbeam CC, Breyer RM, Raisz LG.](#) [Related Articles, Links](#)



Prostaglandin receptor EP2 mediates PGE2 stimulated hypercalcemia in mice in vivo.

Prostaglandins Other Lipid Mediat. 2002 Apr;67(3-4):173-80.

PMID: 12013525 [PubMed - indexed for MEDLINE]

- ☐ **332:** [Granchi D, Cenni E, Savarino L, Ciapetti G, Forbicini G, Vancini M, Maini C, Baldini N, Giunti A.](#) [Related Articles, Links](#)



Bone cement extracts modulate the osteoprotegerin/osteoprotegerin-ligand expression in MG63 osteoblast-like cells.

Biomaterials. 2002 Jun;23(11):2359-65.

PMID: 12013183 [PubMed - indexed for MEDLINE]

- ☐ **333:** [Jiang Y, Mehta CK, Hsu TY, Alsulaimani FF.](#) [Related Articles, Links](#)



Bacteria induce osteoclastogenesis via an osteoblast-independent pathway.

Infect Immun. 2002 Jun;70(6):3143-8.

PMID: 12011008 [PubMed - indexed for MEDLINE]

- ☐ **334:** [Iida-Klein A, Zhou H, Lu SS, Levine LR, Ducayen-Knowles M, Dempster DW, Nieves J, Lindsay R.](#) [Related Articles, Links](#)



Anabolic action of parathyroid hormone is skeletal site specific at the tissue and cellular levels in mice.

J Bone Miner Res. 2002 May;17(5):808-16.

PMID: 12009011 [PubMed - indexed for MEDLINE]

- ☐ **335:** [Bosshart H.](#) [Related Articles, Links](#)



Expression of survival receptors in Hodgkin disease cell lines.

Blood. 2002 May 1;99(9):3484-5; author reply 3485-6. No abstract available.

PMID: 12001908 [PubMed - indexed for MEDLINE]










- ☐ **336:** [de Hooge AS, van de Loo FA, Bennink MB, de Jong DS, Arntz OJ, Lubberts E, Richards CD, vanDen Berg WB.](#) [Related Articles, Links](#)



Adenoviral transfer of murine oncostatin M elicits periosteal bone apposition in knee joints of mice, despite synovial inflammation and up-regulated expression of interleukin-6 and receptor activator of nuclear factor-kappa B ligand.

Am J Pathol. 2002 May;160(5):1733-43.

PMID: 12000725 [PubMed - indexed for MEDLINE]

- ☐ **337:** [Gruber R, Karreth F, Fischer MB, Watzek G.](#) Related Articles, Links  
 Platelet-released supernatants stimulate formation of osteoclast-like cells through a prostaglandin/RANKL-dependent mechanism.  
Bone. 2002 May;30(5):726-32.  
PMID: 11996911 [PubMed - indexed for MEDLINE]
- ☐ **338:** [Corey E, Quinn JE, Bladou F, Brown LG, Roudier MP, Brown JM, Buhler KR, Vessella RL.](#) Related Articles, Links  
 Establishment and characterization of osseous prostate cancer models: intra-tibial injection of human prostate cancer cells.  
Prostate. 2002 Jun 1;52(1):20-33.  
PMID: 11992617 [PubMed - indexed for MEDLINE]
- ☐ **339:** [Schoppet M, Preissner KT, Hofbauer LC.](#) Related Articles, Links  
 RANK ligand and osteoprotegerin: paracrine regulators of bone metabolism and vascular function.  
Arterioscler Thromb Vasc Biol. 2002 Apr 1;22(4):549-53. Review.  
PMID: 11950689 [PubMed - indexed for MEDLINE]
- ☐ **340:** [Li X, Pilbeam CC, Pan L, Breyer RM, Raisz LG.](#) Related Articles, Links  
 Effects of prostaglandin E2 on gene expression in primary osteoblastic cells from prostaglandin receptor knockout mice.  
Bone. 2002 Apr;30(4):567-73.  
PMID: 11934647 [PubMed - indexed for MEDLINE]
- ☐ **341:** [Kanematsu M, Yoshimura K, Takaoki M, Sato A.](#) Related Articles, Links  
 Vector-averaged gravity regulates gene expression of receptor activator of NF-kappaB (RANK) ligand and osteoprotegerin in bone marrow stromal cells via cyclic AMP/protein kinase A pathway.  
Bone. 2002 Apr;30(4):553-8.  
PMID: 11934645 [PubMed - indexed for MEDLINE]
- ☐ **342:** [Oshiro T, Shiotani A, Shibasaki Y, Sasaki T.](#) Related Articles, Links  
 Osteoclast induction in periodontal tissue during experimental movement of incisors in osteoprotegerin-deficient mice.  
Anat Rec. 2002 Apr 1;266(4):218-25.  
PMID: 11920384 [PubMed - indexed for MEDLINE]
- ☐ **343:** [Roux S, Meignin V, Quillard J, Meduri G, Guiochon-Mantel A, Ferman JP, Milgrom E, Mariette X.](#) Related Articles, Links  
 RANK (receptor activator of nuclear factor-kappaB) and RANKL expression in multiple myeloma.  
Br J Haematol. 2002 Apr;117(1):86-92.  
PMID: 11918537 [PubMed - indexed for MEDLINE]
- ☐ **344:** [Mori H, Kitazawa R, Mizuki S, Nose M, Maeda S, Kitazawa S.](#) Related Articles, Links  
 RANK ligand, RANK, and OPG expression in type II collagen-induced arthritis mouse.  
Histochem Cell Biol. 2002 Mar;117(3):283-92. Epub 2002 Jan 26.  
PMID: 11914926 [PubMed - indexed for MEDLINE]
- ☐ **345:** [Feige U.](#) Related Articles, Links  
 Osteoprotegerin.  
Ann Rheum Dis. 2001 Nov;60 Suppl 3:iii81-4. Review. No abstract available.

PMID: 11890662 [PubMed - indexed for MEDLINE]

- ☐ **346:** [Kazama JJ, Shigematsu T, Yano K, Tsuda E, Miura M, Iwasaki Y, Kawaguchi Y, Gejyo F, Kurokawa K, Fukagawa M.](#) Related Articles, Links



Increased circulating levels of osteoclastogenesis inhibitory factor (osteoprotegerin) in patients with chronic renal failure.

Am J Kidney Dis. 2002 Mar;39(3):525-32.

PMID: 11877571 [PubMed - indexed for MEDLINE]

- ☐ **347:** [Faucheux C, Horton MA, Price JS.](#) Related Articles, Links



Nuclear localization of type I parathyroid hormone/parathyroid hormone-related protein receptors in deer antler osteoclasts: evidence for parathyroid hormone-related protein and receptor activator of NF-kappaB-dependent effects on osteoclast formation in regenerating mammalian bone.

J Bone Miner Res. 2002 Mar;17(3):455-64.

PMID: 11874237 [PubMed - indexed for MEDLINE]

- ☐ **348:** [Good CR, O'Keefe RJ, Puzas JE, Schwarz EM, Rosier RN.](#) Related Articles, Links



Immunohistochemical study of receptor activator of nuclear factor kappa-B ligand (RANK-L) in human osteolytic bone tumors.

J Surg Oncol. 2002 Mar;79(3):174-9.

PMID: 11870668 [PubMed - indexed for MEDLINE]

- ☐ **349:** [Green EA, Choi Y, Flavell RA.](#) Related Articles, Links



Pancreatic lymph node-derived CD4(+)CD25(+) Treg cells: highly potent regulators of diabetes that require TRANCE-RANK signals.

Immunity. 2002 Feb;16(2):183-91.

PMID: 11869680 [PubMed - indexed for MEDLINE]

- ☐ **350:** [Roux S, Amazit L, Meduri G, Guiochon-Mantel A, Milgrom E, Mariette X.](#) Related Articles, Links



RANK (receptor activator of nuclear factor kappa B) and RANK ligand are expressed in giant cell tumors of bone.

Am J Clin Pathol. 2002 Feb;117(2):210-6.

PMID: 11863217 [PubMed - indexed for MEDLINE]

- ☐ **351:** [Theill LE, Boyle WJ, Penninger JM.](#) Related Articles, Links



RANK-L and RANK: T cells, bone loss, and mammalian evolution.

Annu Rev Immunol. 2002;20:795-823. Epub 2001 Oct 4. Review.

PMID: 11861618 [PubMed - indexed for MEDLINE]

- ☐ **352:** [Wise GE, Yao S, Zhang Q, Ren Y.](#) Related Articles, Links



Inhibition of osteoclastogenesis by the secretion of osteoprotegerin in vitro by rat dental follicle cells and its implications for tooth eruption.

Arch Oral Biol. 2002 Mar;47(3):247-54.

PMID: 11839361 [PubMed - indexed for MEDLINE]

- ☐ **353:** [Kubota K, Sakikawa C, Katsumata M, Nakamura T, Wakabayashi K.](#) Related Articles, Links



























Platelet-derived growth factor BB secreted from osteoclasts acts as an osteoblastogenesis inhibitory factor.

J Bone Miner Res. 2002 Feb;17(2):257-65.

PMID: 11811556 [PubMed - indexed for MEDLINE]



- ☐ **354:** [Kanzaki H, Chiba M, Shimizu Y, Mitani H.](#) Related Articles, Links  
 Periodontal ligament cells under mechanical stress induce osteoclastogenesis by receptor activator of nuclear factor kappaB ligand up-regulation via prostaglandin E2 synthesis.  
J Bone Miner Res. 2002 Feb;17(2):210-20.  
PMID: 11811551 [PubMed - indexed for MEDLINE]
- ☐ **355:** [Holloway WR, Collier FM, Aitken CJ, Myers DE, Hodge JM, Malakellis M, Gough TJ, Collier GR, Nicholson GC.](#) Related Articles, Links  
 Leptin inhibits osteoclast generation.  
J Bone Miner Res. 2002 Feb;17(2):200-9.  
PMID: 11811550 [PubMed - indexed for MEDLINE]
- ☐ **356:** [Mizukami J, Takaesu G, Akatsuka H, Sakurai H, Ninomiya-Tsuji J, Matsumoto K, Sakurai N.](#) Related Articles, Links  
 Receptor activator of NF-kappaB ligand (RANKL) activates TAK1 mitogen-activated protein kinase kinase through a signaling complex containing RANK, TAB2, and TRAF6.  
Mol Cell Biol. 2002 Feb;22(4):992-1000.  
PMID: 11809792 [PubMed - indexed for MEDLINE]
- ☐ **357:** [Suda K, Woo JT, Takami M, Sexton PM, Nagai K.](#) Related Articles, Links  
 Lipopolysaccharide supports survival and fusion of preosteoclasts independent of TNF-alpha, IL-1, and RANKL.  
J Cell Physiol. 2002 Jan;190(1):101-8.  
PMID: 11807816 [PubMed - indexed for MEDLINE]
- ☐ **358:** [Ramalho AC, Jullienne A, Couttet P, Graulet AM, Morieux C, de Vernejoul MC, Cohen-Solal ME.](#) Related Articles, Links  
 Effect of oestradiol on cytokine production in immortalized human marrow stromal cell lines.  
Cytokine. 2001 Nov 21;16(4):126-30.  
PMID: 11792122 [PubMed - indexed for MEDLINE]
- ☐ **359:** [Nosaka K, Miyamoto T, Sakai T, Mitsuya H, Suda T, Matsuoka M.](#) Related Articles, Links  
 Mechanism of hypercalcemia in adult T-cell leukemia: overexpression of receptor activator of nuclear factor kappaB ligand on adult T-cell leukemia cells.  
Blood. 2002 Jan 15;99(2):634-40.  
PMID: 11781248 [PubMed - indexed for MEDLINE]
- ☐ **360:** [Wang X, Wu J, Shidoji Y, Muto Y, Ohishi N, Yagi K, Ikegami S, Shinki T, Udagawa N, Suda T, Ishimi Y.](#) Related Articles, Links  
 Effects of geranylgeranoic acid in bone: induction of osteoblast differentiation and inhibition of osteoclast formation.  
J Bone Miner Res. 2002 Jan;17(1):91-100.  
PMID: 11771673 [PubMed - indexed for MEDLINE]
- ☐ **361:** [Komuro H, Olee T, Kuhn K, Quach J, Brinson DC, Shikhman A, Valbracht J, Creighton-Achermann L, Lotz M.](#) Related Articles, Links  
 The osteoprotegerin/receptor activator of nuclear factor kappaB/receptor activator of nuclear factor kappaB ligand system in cartilage.  
Arthritis Rheum. 2001 Dec;44(12):2768-76.  
PMID: 11762937 [PubMed - indexed for MEDLINE]

-  **362:** Ito S, Wakabayashi K, Ubukata O, Hayashi S, Okada F, Hata T. Related Articles, Links  
 Crystal structure of the extracellular domain of mouse RANK ligand at 2.2-A resolution.  
J Biol Chem. 2002 Feb 22;277(8):6631-6. Epub 2001 Nov 30.  
PMID: 11733492 [PubMed - indexed for MEDLINE]
-  **363:** Chung H, Kang YS, Hwang CS, Moon IK, Yim CH, Choi KH, Han KO, Jang HC, Yoon HK, Han IK. Related Articles, Links  
 Deflazacort increases osteoclast formation in mouse bone marrow culture and the ratio of RANKL/OPG mRNA expression in marrow stromal cells.  
J Korean Med Sci. 2001 Dec;16(6):769-73.  
PMID: 11748360 [PubMed - indexed for MEDLINE]
-  **364:** Cao Y, Bonizzi G, Seagroves TN, Greten FR, Johnson R, Schmidt EV, Karin M. Related Articles, Links  
 IKKalpha provides an essential link between RANK signaling and cyclin D1 expression during mammary gland development.  
Cell. 2001 Dec 14;107(6):763-75.  
PMID: 11747812 [PubMed - indexed for MEDLINE]
-  **365:** Dhore CR, Cleutjens JP, Lutgens E, Cleutjens KB, Geusens PP, Kitslaar PJ, Tordoir JH, Spronk HM, Vermeer C, Daemen MJ. Related Articles, Links  
 Differential expression of bone matrix regulatory proteins in human atherosclerotic plaques.  
Arterioscler Thromb Vasc Biol. 2001 Dec;21(12):1998-2003.  
PMID: 11742876 [PubMed - indexed for MEDLINE]
-  **366:** Croucher PJ, Shipman CM, Lippitt J, Perry M, Asosingh K, Hijzen A, Brabbs AC, van Beek EJ, Holen I, Skerry TM, Dunstan CR, Russell GR, Van Camp B, Vanderkerken K. Related Articles, Links  
 Osteoprotegerin inhibits the development of osteolytic bone disease in multiple myeloma.  
Blood. 2001 Dec 15;98(13):3534-40.  
PMID: 11739154 [PubMed - indexed for MEDLINE]
-  **367:** Giuliani N, Bataille R, Mancini C, Lazzaretti M, Barille S. Related Articles, Links  
 Myeloma cells induce imbalance in the osteoprotegerin/osteoprotegerin ligand system in the human bone marrow environment.  
Blood. 2001 Dec 15;98(13):3527-33.  
PMID: 11739153 [PubMed - indexed for MEDLINE]
-  **368:** Lindberg MK, Erlandsson M, Alatalo SL, Windahl S, Andersson G, Halleen JM, Carlsten H, Gustafsson JA, Ohlsson C. Related Articles, Links  
 Estrogen receptor alpha, but not estrogen receptor beta, is involved in the regulation of the OPG/RANKL (osteoprotegerin/receptor activator of NF-kappa B ligand) ratio and serum interleukin-6 in male mice.  
J Endocrinol. 2001 Dec;171(3):425-33.  
PMID: 11739008 [PubMed - indexed for MEDLINE]
-  **369:** Kim HJ, Yoon MJ, Lee J, Penninger JM, Kong YY. Related Articles, Links  
 Osteoprotegerin ligand induces beta-casein gene expression through the transcription factor CCAAT/enhancer-binding protein beta.  
J Biol Chem. 2002 Feb 15;277(7):5339-44. Epub 2001 Nov 28.

PMID: 11726661 [PubMed - indexed for MEDLINE]

- ☐ **370:** [Ueland T, Bollerslev J, Godang K, Muller F, Froland SS, Aukrust P.](#) [Related Articles, Links](#)



Increased serum osteoprotegerin in disorders characterized by persistent immune activation or glucocorticoid excess--possible role in bone homeostasis.

Eur J Endocrinol. 2001 Dec;145(6):685-90.

PMID: 11720891 [PubMed - indexed for MEDLINE]

- ☐ **371:** [Hofbauer LC, Schoppet M.](#) [Related Articles, Links](#)



Serum measurement of osteoprotegerin--clinical relevance and potential applications.

Eur J Endocrinol. 2001 Dec;145(6):681-3. No abstract available.

PMID: 11720890 [PubMed - indexed for MEDLINE]

- ☐ **372:** [Khosla S.](#) [Related Articles, Links](#)



Minireview: the OPG/RANKL/RANK system.

Endocrinology. 2001 Dec;142(12):5050-5. Review.

PMID: 11713196 [PubMed - indexed for MEDLINE]

- ☐ **373:** [Chikazu D, Katagiri M, Ogasawara T, Ogata N, Shimoaka T, Takato T, Nakamura K, Kawaguchi H.](#) [Related Articles, Links](#)



Regulation of osteoclast differentiation by fibroblast growth factor 2: stimulation of receptor activator of nuclear factor kappaB ligand/osteoclast differentiation factor expression in osteoblasts and inhibition of macrophage colony-stimulating factor function in osteoclast precursors.

J Bone Miner Res. 2001 Nov;16(11):2074-81.

PMID: 11697804 [PubMed - indexed for MEDLINE]

- ☐ **374:** [Fiumara P, Snell V, Li Y, Mukhopadhyay A, Younes M, Gillenwater AM, Cabanillas F, Aggarwal BB, Younes A.](#) [Related Articles, Links](#)



Functional expression of receptor activator of nuclear factor kappaB in Hodgkin disease cell lines.

Blood. 2001 Nov 1;98(9):2784-90.

PMID: 11675352 [PubMed - indexed for MEDLINE]

- ☐ **375:** [Lean JM, Fuller K, Chambers TJ.](#) [Related Articles, Links](#)



FLT3 ligand can substitute for macrophage colony-stimulating factor in support of osteoclast differentiation and function.

Blood. 2001 Nov 1;98(9):2707-13.

PMID: 11675341 [PubMed - indexed for MEDLINE]

- ☐ **376:** [Boissy P, Destaing O, Jurdic P.](#) [Related Articles, Links](#)



RANKL induces formation of avian osteoclasts from macrophages but not from macrophage polykaryons.

Biochem Biophys Res Commun. 2001 Oct 26;288(2):340-6.

PMID: 11606048 [PubMed - indexed for MEDLINE]

- ☐ **377:** [Kawahara N, Kurata A, Hakamatsuka T, Sekita S, Satake M.](#) [Related Articles, Links](#)



Two novel cucurbitacins, neocucurbitacins A and B, from the Brazilian folk medicine "Buchinha" (*Luffa operculata*) and their effect on PEBP2alphaA and OCIF gene expression in a human osteoblast-like

Saos-2 cell line.

Chem Pharm Bull (Tokyo). 2001 Oct;49(10):1377-9.

PMID: 11605678 [PubMed - indexed for MEDLINE]

- ☐ **378:** [Rosa-Ranal M, de la Cruz DA, Lorena-Rubio Y, Larrea F.](#) [Related Articles, Links](#)



[New paradigms in the regulation of bone metabolism]

Rev Invest Clin. 2001 Jul-Aug;53(4):362-9. Spanish.

PMID: 11599485 [PubMed - indexed for MEDLINE]

- ☐ **379:** [Choi SJ, Kurihara N, Oba Y, Roodman GD.](#) [Related Articles, Links](#)



Osteoclast inhibitory peptide 2 inhibits osteoclast formation via its C-terminal fragment.

J Bone Miner Res. 2001 Oct;16(10):1804-11.

PMID: 11585344 [PubMed - indexed for MEDLINE]

- ☐ **380:** [Quinn JM, Itoh K, Udagawa N, Hausler K, Yasuda H, Shima N, Mizuno A, Higashio K, Takahashi N, Suda T, Martin TJ, Gillespie MT.](#) [Related Articles, Links](#)



Transforming growth factor beta affects osteoclast differentiation via direct and indirect actions.

J Bone Miner Res. 2001 Oct;16(10):1787-94.

PMID: 11585342 [PubMed - indexed for MEDLINE]

- ☐ **381:** [Pearse RN, Sordillo EM, Yaccoby S, Wong BR, Liao DF, Colman N, Michaeli J, Epstein J, Choi Y.](#) [Related Articles, Links](#)



Multiple myeloma disrupts the TRANCE/ osteoprotegerin cytokine axis to trigger bone destruction and promote tumor progression.

Proc Natl Acad Sci U S A. 2001 Sep 25;98(20):11581-6. Epub 2001 Sep 18.

PMID: 11562486 [PubMed - indexed for MEDLINE]

- ☐ **382:** [Tintut Y, Demer LL.](#) [Related Articles, Links](#)



Recent advances in multifactorial regulation of vascular calcification.

Curr Opin Lipidol. 2001 Oct;12(5):555-60. Review.

PMID: 11561176 [PubMed - indexed for MEDLINE]

- ☐ **383:** [Takeshita S, Arai S, Kudo A.](#) [Related Articles, Links](#)



Identification and characterization of mouse bone marrow stromal cell lines immortalized by temperature-sensitive SV40 T antigen: supportive activity for osteoclast differentiation.

Bone. 2001 Sep;29(3):236-41.

PMID: 11557367 [PubMed - indexed for MEDLINE]

- ☐ **384:** [Raffai RL, Dong LM, Farese RV Jr, Weisgraber KH.](#) [Related Articles, Links](#)



Introduction of human apolipoprotein E4 "domain interaction" into mouse apolipoprotein E.

Proc Natl Acad Sci U S A. 2001 Sep 25;98(20):11587-91. Epub 2001 Sep 11.

PMID: 11553788 [PubMed - indexed for MEDLINE]

- ☐ **385:** [Haynes DR, Crotti TN, Potter AE, Loric M, Atkins GJ, Howie DW, Findlay DM.](#) [Related Articles, Links](#)



The osteoclastogenic molecules RANKL and RANK are associated with periprosthetic osteolysis.

J Bone Joint Surg Br. 2001 Aug;83(6):902-11. Review.

PMID: 11521937 [PubMed - indexed for MEDLINE]

[Myoung H, Park JY, Choung PH.](#)

[Related Articles, Links](#)

☐ **386:**



Effects of a bisphosphonate on the expression of bone specific genes after autogenous free bone grafting in rats.  
J Periodontal Res. 2001 Aug;36(4):244-51.  
PMID: 11519698 [PubMed - indexed for MEDLINE]

☐ **387:** [Hofbauer LC](#), [Neubauer A](#), [Heufelder AE](#).

[Related Articles](#), [Links](#)



Receptor activator of nuclear factor-kappaB ligand and osteoprotegerin: potential implications for the pathogenesis and treatment of malignant bone diseases.  
Cancer. 2001 Aug 1;92(3):460-70. Review.  
PMID: 11505389 [PubMed - indexed for MEDLINE]

☐ **388:** [Ikeda T](#), [Utsuyama M](#), [Hirokawa K](#).

[Related Articles](#), [Links](#)



Expression profiles of receptor activator of nuclear factor kappaB ligand, receptor activator of nuclear factor kappaB, and osteoprotegerin messenger RNA in aged and ovariectomized rat bones.  
J Bone Miner Res. 2001 Aug;16(8):1416-25.  
PMID: 11499864 [PubMed - indexed for MEDLINE]

☐ **389:** [Sakai A](#), [Nishida S](#), [Nishida S](#), [Tsutsui T](#), [Takeuchi K](#), [Takeda S](#), [Nakamura T](#).

[Related Articles](#), [Links](#)



1alpha-Hydroxyvitamin D3 suppresses trabecular bone resorption by inhibiting osteoclastogenic potential in bone marrow cells after ovariectomy in mice.  
J Bone Miner Metab. 2001;19(5):277-86.  
PMID: 11498729 [PubMed - indexed for MEDLINE]

☐ **390:** [Hofbauer LC](#), [Heufelder AE](#).

[Related Articles](#), [Links](#)



Role of receptor activator of nuclear factor-kappaB ligand and osteoprotegerin in bone cell biology.  
J Mol Med. 2001 Jun;79(5-6):243-53. Review.  
PMID: 11485016 [PubMed - indexed for MEDLINE]

☐ **391:** [Thomas GP](#), [Baker SU](#), [Eisman JA](#), [Gardiner EM](#).

[Related Articles](#), [Links](#)



Changing RANKL/OPG mRNA expression in differentiating murine primary osteoblasts.  
J Endocrinol. 2001 Aug;170(2):451-60.  
PMID: 11479141 [PubMed - indexed for MEDLINE]

☐ **392:** [Yamagishi T](#), [Otsuka E](#), [Hagiwara H](#).

[Related Articles](#), [Links](#)











Reciprocal control of expression of mRNAs for osteoclast differentiation factor and OPG in osteogenic stromal cells by genistein: evidence for the involvement of topoisomerase II in osteoclastogenesis.  
Endocrinology. 2001 Aug;142(8):3632-7.  
PMID: 11459812 [PubMed - indexed for MEDLINE]

☐ **393:** [Seck T](#), [Diel I](#), [Bismar H](#), [Ziegler R](#), [Pfeilschifter J](#).

[Related Articles](#), [Links](#)



Serum parathyroid hormone, but not menopausal status, is associated with the expression of osteoprotegerin and RANKL mRNA in human bone samples.  
Eur J Endocrinol. 2001 Aug;145(2):199-205.  
PMID: 11454517 [PubMed - indexed for MEDLINE]

- ☐ **394:** [Choi Y, Woo KM, Ko SH, Lee YJ, Park SJ, Kim HM, Kwon BS.](#) Related Articles, Links  
 Osteoclastogenesis is enhanced by activated B cells but suppressed by activated CD8(+) T cells.  
Eur J Immunol. 2001 Jul;31(7):2179-88.  
PMID: 11449372 [PubMed - indexed for MEDLINE]
- ☐ **395:** [Sakiyama H, Masuda R, Inoue N, Yamamoto K, Kuriwa K, Nakagawa K, Yoshida K.](#) Related Articles, Links  
 Establishment and characterization of macrophage-like cell lines expressing osteoclast-specific markers.  
J Bone Miner Metab. 2001;19(4):220-7.  
PMID: 11448014 [PubMed - indexed for MEDLINE]
- ☐ **396:** [Corisdeo S, Gyda M, Zaidi M, Moonga BS, Troen BR.](#) Related Articles, Links  
 New insights into the regulation of cathepsin K gene expression by osteoprotegerin ligand.  
Biochem Biophys Res Commun. 2001 Jul 13;285(2):335-9.  
PMID: 11444847 [PubMed - indexed for MEDLINE]
- ☐ **397:** [Gyda M, Corisdeo S, Zaidi M, Troen BR.](#) Related Articles, Links  
 Macrophage colony-stimulating factor suppresses osteoblast formation.  
Biochem Biophys Res Commun. 2001 Jul 13;285(2):328-34.  
PMID: 11444846 [PubMed - indexed for MEDLINE]
- ☐ **398:** [Kukita T, Kukita A, Watanabe T, Iijima T.](#) Related Articles, Links  
 Osteoclast differentiation antigen, distinct from receptor activator of nuclear factor kappa B, is involved in osteoclastogenesis under calcitonin-regulated conditions.  
J Endocrinol. 2001 Jul;170(1):175-83.  
PMID: 11431150 [PubMed - indexed for MEDLINE]
- ☐ **399:** [Haynes DR, Crotti TN, Loric M, Bain GI, Atkins GJ, Findlay DM.](#) Related Articles, Links  
 Osteoprotegerin and receptor activator of nuclear factor kappaB ligand (RANKL) regulate osteoclast formation by cells in the human rheumatoid arthritic joint.  
Rheumatology (Oxford). 2001 Jun;40(6):623-30.  
PMID: 11426018 [PubMed - indexed for MEDLINE]
- ☐ **400:** [Fazzalari NL, Kuliwaba JS, Atkins GJ, Forwood MR, Findlay DM.](#) Related Articles, Links  
 The ratio of messenger RNA levels of receptor activator of nuclear factor kappaB ligand to osteoprotegerin correlates with bone remodeling indices in normal human cancellous bone but not in osteoarthritis.  
J Bone Miner Res. 2001 Jun;16(6):1015-27.  
PMID: 11393778 [PubMed - indexed for MEDLINE]
- ☐ **401:** [Kon T, Cho TJ, Aizawa T, Yamazaki M, Nooh N, Graves D, Gerstenfeld LC, Einhorn TA.](#) Related Articles, Links  
 Expression of osteoprotegerin, receptor activator of NF-kappaB ligand (osteoprotegerin ligand) and related proinflammatory cytokines during fracture healing.  
J Bone Miner Res. 2001 Jun;16(6):1004-14.  
PMID: 11393777 [PubMed - indexed for MEDLINE]

☐ **402:** [Abu-Amer Y.](#)[Related Articles, Links](#)

IL-4 abrogates osteoclastogenesis through STAT6-dependent inhibition of NF-kappaB.

J Clin Invest. 2001 Jun;107(11):1375-85.

PMID: 11390419 [PubMed - indexed for MEDLINE]

☐ **403:** [Hein GE.](#)[Related Articles, Links](#)

[Pathophysiology of bone loss in rheumatic diseases--do bone markers help in monitoring?]

Z Rheumatol. 2001 Apr;60(2):113-5. German. No abstract available.

PMID: 11383046 [PubMed - indexed for MEDLINE]

☐ **404:** [Kanzaki H, Chiba M, Shimizu Y, Mitani H.](#)[Related Articles, Links](#)

Dual regulation of osteoclast differentiation by periodontal ligament cells through RANKL stimulation and OPG inhibition.

J Dent Res. 2001 Mar;80(3):887-91.

PMID: 11379890 [PubMed - indexed for MEDLINE]

☐ **405:** [Kostenuik PJ, Shalhoub V.](#)[Related Articles, Links](#)

Osteoprotegerin: a physiological and pharmacological inhibitor of bone resorption.

Curr Pharm Des. 2001 May;7(8):613-35. Review.

PMID: 11375772 [PubMed - indexed for MEDLINE]

☐ **406:** [Zhang J, Dai J, Qi Y, Lin DL, Smith P, Strayhorn C, Mizokami A, Fu Z, Westman J, Keller ET.](#) [Related Articles, Links](#)

Osteoprotegerin inhibits prostate cancer-induced osteoclastogenesis and prevents prostate tumor growth in the bone.

J Clin Invest. 2001 May;107(10):1235-44.

PMID: 11375413 [PubMed - indexed for MEDLINE]

☐ **407:** [Goltzman D.](#)[Related Articles, Links](#)

Osteolysis and cancer.

J Clin Invest. 2001 May;107(10):1219-20. No abstract available.

PMID: 11375409 [PubMed - indexed for MEDLINE]

☐ **408:** [Green MJ, Deodhar AA.](#)[Related Articles, Links](#)

Bone changes in early rheumatoid arthritis.

Best Pract Res Clin Rheumatol. 2001 Mar;15(1):105-23. Review.

PMID: 11358418 [PubMed - indexed for MEDLINE]

☐ **409:** [Kotake S, Udagawa N, Hakoda M, Mogi M, Yano K, Tsuda E, Takahashi K, Furuya T, Ishiyama S, Kim KJ, Saito S, Nishikawa T, Takahashi N, Togari A, Tomatsu T, Suda T, Kamatani N.](#) [Related Articles, Links](#)

Activated human T cells directly induce osteoclastogenesis from human monocytes: possible role of T cells in bone destruction in rheumatoid arthritis patients.

Arthritis Rheum. 2001 May;44(5):1003-12.

PMID: 11352231 [PubMed - indexed for MEDLINE]

☐ **410:** [Disthabanchong S, Gonzalez EA.](#)[Related Articles, Links](#)

Regulation of bone cell development and function: implication for renal osteodystrophy.

J Investig Med. 2001 May;49(3):240-9. Review. No abstract available.  
PMID: 11352181 [PubMed - indexed for MEDLINE]

- ☐ **411:** [Taubman MA, Kawai T.](#) Related Articles, Links



Involvement of T-lymphocytes in periodontal disease and in direct and indirect induction of bone resorption.

Crit Rev Oral Biol Med. 2001;12(2):125-35. Review.  
PMID: 11345523 [PubMed - indexed for MEDLINE]

- ☐ **412:** [Komine M, Kukita A, Kukita T, Ogata Y, Hotokebuchi T, Kohashi O.](#) Related Articles, Links



Tumor necrosis factor-alpha cooperates with receptor activator of nuclear factor kappaB ligand in generation of osteoclasts in stromal cell-depleted rat bone marrow cell culture.

Bone. 2001 May;28(5):474-83.  
PMID: 11344046 [PubMed - indexed for MEDLINE]

- ☐ **413:** [Van Bezooijen RL, Papapoulos SE, Lowik CW.](#) Related Articles, Links



Effect of interleukin-17 on nitric oxide production and osteoclastic bone resorption: is there dependency on nuclear factor-kappaB and receptor activator of nuclear factor kappaB (RANK)/RANK ligand signaling?

Bone. 2001 Apr;28(4):378-86.  
PMID: 11336918 [PubMed - indexed for MEDLINE]

- ☐ **414:** [Atkins GJ, Bouralexis S, Haynes DR, Graves SE, Geary SM, Evdokiou A, Zannettino AC, Hay S, Findlay DM.](#) Related Articles, Links



Osteoprotegerin inhibits osteoclast formation and bone resorbing activity in giant cell tumors of bone.

Bone. 2001 Apr;28(4):370-7.  
PMID: 11336917 [PubMed - indexed for MEDLINE]

- ☐ **415:** [Hofbauer LC, Heufelder AE, Erben RG.](#) Related Articles, Links



Osteoprotegerin, RANK, and RANK ligand: the good, the bad, and the ugly in rheumatoid arthritis.

J Rheumatol. 2001 Apr;28(4):685-7. Review. No abstract available.  
PMID: 11327234 [PubMed - indexed for MEDLINE]

- ☐ **416:** [Horowitz MC, Xi Y, Wilson K, Kacena MA.](#) Related Articles, Links



Control of osteoclastogenesis and bone resorption by members of the TNF family of receptors and ligands.

Cytokine Growth Factor Rev. 2001 Mar;12(1):9-18. Review.  
PMID: 11312114 [PubMed - indexed for MEDLINE]

- ☐ **417:** [Brown JM, Corey E, Lee ZD, True LD, Yun TJ, Tondravi M, Vessella RL.](#) Related Articles, Links



Osteoprotegerin and rank ligand expression in prostate cancer.

Urology. 2001 Apr;57(4):611-6.  
PMID: 11306358 [PubMed - indexed for MEDLINE]

- ☐ **418:** [Mackie PS, Fisher JL, Zhou H, Choong PF.](#) Related Articles, Links



Bisphosphonates regulate cell growth and gene expression in the UMR 106-01 clonal rat osteosarcoma cell line.

Br J Cancer. 2001 Apr 6;84(7):951-8.  
PMID: 11286476 [PubMed - indexed for MEDLINE]



☐ **419:** [Lories RJ, Luyten FP.](#)

[Related Articles, Links](#)



Osteoprotegerin and osteoprotegerin-ligand balance: a new paradigm in bone metabolism providing new therapeutic targets.

Clin Rheumatol. 2001;20(1):3-9. Review.

PMID: 11254237 [PubMed - indexed for MEDLINE]

☐ **420:** [Ikeda T, Kasai M, Utsuyama M, Hirokawa K.](#)

[Related Articles, Links](#)



Determination of three isoforms of the receptor activator of nuclear factor-kappaB ligand and their differential expression in bone and thymus.

Endocrinology. 2001 Apr;142(4):1419-26.

PMID: 11250921 [PubMed - indexed for MEDLINE]

☐ **421:** [Michigami T, Ihara-Watanabe M, Yamazaki M, Ozono K.](#)

[Related Articles, Links](#)



Receptor activator of nuclear factor kappaB ligand (RANKL) is a key molecule of osteoclast formation for bone metastasis in a newly developed model of human neuroblastoma.

Cancer Res. 2001 Feb 15;61(4):1637-44.

PMID: 11245477 [PubMed - indexed for MEDLINE]

☐ **422:** [Mori K, Miyamoto N, Higuchi Y, Nanba K, Ito M, Tsurudome M, Nishio M, Kawano M, Uchida A, Ito Y.](#)

[Related Articles, Links](#)



Cross-talk between RANKL and FRP-1/CD98 Systems: RANKL-mediated osteoclastogenesis is suppressed by an inhibitory anti-CD98 heavy chain mAb and CD98-mediated osteoclastogenesis is suppressed by osteoclastogenesis inhibitory factor.

Cell Immunol. 2001 Feb 1;207(2):118-26.

PMID: 11243701 [PubMed - indexed for MEDLINE]

☐ **423:** [Takeuchi T, Tsuboi T, Arai M, Togari A.](#)

[Related Articles, Links](#)



Adrenergic stimulation of osteoclastogenesis mediated by expression of osteoclast differentiation factor in MC3T3-E1 osteoblast-like cells.

Biochem Pharmacol. 2001 Mar 1;61(5):579-86.

PMID: 11239501 [PubMed - indexed for MEDLINE]

☐ **424:** [Sasaki N, Kusano E, Ando Y, Yano K, Tsuda E, Asano Y.](#)

[Related Articles, Links](#)



Glucocorticoid decreases circulating osteoprotegerin (OPG): possible mechanism for glucocorticoid induced osteoporosis.

Nephrol Dial Transplant. 2001 Mar;16(3):479-82.

PMID: 11239019 [PubMed - indexed for MEDLINE]

☐ **425:** [Hofbauer LC, Heufelder AE.](#)

[Related Articles, Links](#)



[Osteoprotegerin ligand and osteoprotegerin: new concepts of the pathogenesis and therapy of metabolic bone diseases]

Dtsch Med Wochenschr. 2001 Feb 9;126(6):145-50. Review. German. No abstract available.

PMID: 11233883 [PubMed - indexed for MEDLINE]

☐ **426:** [Kotake S, Utagawa N, Suda T, Kamatani N.](#)









[Related Articles, Links](#)











[Molecular mechanism of bone metabolism]

Nippon Naika Gakkai Zasshi. 2000 Oct 10;89(10):2046-53. Review. Japanese. No abstract available.

PMID: 11215116 [PubMed - indexed for MEDLINE]

- ☐ **427:** [Weitzmann MN, Cenci S, Rifas L, Haug J, Dipersio J, Pacifici R.](#) [Related Articles, Links](#)  
 T cell activation induces human osteoclast formation via receptor activator of nuclear factor kappaB ligand-dependent and -independent mechanisms.  
J Bone Miner Res. 2001 Feb;16(2):328-37.  
PMID: 11204433 [PubMed - indexed for MEDLINE]
- ☐ **428:** [Wise GE, Lumpkin SJ, Huang H, Zhang Q.](#) [Related Articles, Links](#)  
 Osteoprotegerin and osteoclast differentiation factor in tooth eruption.  
J Dent Res. 2000 Dec;79(12):1937-42.  
PMID: 11201042 [PubMed - indexed for MEDLINE]
- ☐ **429:** [Aubin JE, Bonnelye E.](#) [Related Articles, Links](#)  
 Osteoprotegerin and its ligand: a new paradigm for regulation of osteoclastogenesis and bone resorption.  
Osteoporos Int. 2000;11(11):905-13. Review.  
PMID: 11193242 [PubMed - indexed for MEDLINE]
- ☐ **430:** [Clohisy DR, Ramnaraine ML, Scully S, Qi M, Van G, Tan HL, Lacey DL.](#) [Related Articles, Links](#)  
 Osteoprotegerin inhibits tumor-induced osteoclastogenesis and bone tumor growth in osteopetrotic mice.  
J Orthop Res. 2000 Nov;18(6):967-76.  
PMID: 11192258 [PubMed - indexed for MEDLINE]
- ☐ **431:** [Benard J.](#) [Related Articles, Links](#)  
 [From metastatic osteolysis a painful message: beginning to understand with osteoprotegerin?  
Bull Cancer. 2000 Sep;87(9):623-4. French. No abstract available.  
PMID: 11184451 [PubMed - indexed for MEDLINE]
- ☐ **432:** [Kikuchi T, Matsuguchi T, Tsuboi N, Mitani A, Tanaka S, Matsuoka M, Yamamoto G, Hishikawa T, Noguchi T, Yoshikai Y.](#) [Related Articles, Links](#)  
 Gene expression of osteoclast differentiation factor is induced by lipopolysaccharide in mouse osteoblasts via Toll-like receptors.  
J Immunol. 2001 Mar 1;166(5):3574-9.  
PMID: 11207318 [PubMed - indexed for MEDLINE]
- ☐ **433:** [O'Brien EA, Williams JH, Marshall MJ.](#) [Related Articles, Links](#)  
 Osteoprotegerin is produced when prostaglandin synthesis is inhibited causing osteoclasts to detach from the surface of mouse parietal bone and attach to the endocranial membrane.  
Bone. 2001 Feb;28(2):208-14.  
PMID: 11182380 [PubMed - indexed for MEDLINE]
- ☐ **434:** [Gravallese EM, Galson DL, Goldring SR, Auron PE.](#) [Related Articles, Links](#)  
 The role of TNF-receptor family members and other TRAF-dependent receptors in bone resorption.  
Arthritis Res. 2001;3(1):6-12. Epub 2000 Nov 2. Review.  
PMID: 11178122 [PubMed - indexed for MEDLINE]
- ☐ **435:** [Wuyts W, Van Wesenbeeck L, Morales-Piga A, Ralston S, Hocking L, Vanhoenacker F, Westhovens R, Verbruggen L.](#) [Related Articles, Links](#)

-  Anderson D, Hughes A, Van Hul W.  
Evaluation of the role of RANK and OPG genes in Paget's disease of bone.  
Bone. 2001 Jan;28(1):104-7.  
PMID: 11165949 [PubMed - indexed for MEDLINE]
- ☐ **436:** Hemmi H, Okuyama H, Yamane T, Nishikawa S, Nakano T, Yamazaki H, Kunisada T, Hayashi S. [Related Articles, Links](#)  
 Temporal and spatial localization of osteoclasts in colonies from embryonic stem cells.  
Biochem Biophys Res Commun. 2001 Jan 19;280(2):526-34.  
PMID: 11162550 [PubMed - indexed for MEDLINE]
- ☐ **437:** Hofbauer LC, Shui C, Riggs BL, Dunstan CR, Spelsberg TC, O'Brien T, Khosla S. [Related Articles, Links](#)  
 Effects of immunosuppressants on receptor activator of NF-kappaB ligand and osteoprotegerin production by human osteoblastic and coronary artery smooth muscle cells.  
Biochem Biophys Res Commun. 2001 Jan 12;280(1):334-9.  
PMID: 11162519 [PubMed - indexed for MEDLINE]
- ☐ **438:** American Society for Bone and Mineral Research President's Committee on Nomenclature. [Related Articles, Links](#)  
 Proposed standard nomenclature for new tumor necrosis factor family members involved in the regulation of bone resorption. The American Society for Bone and Mineral Research President's Committee on Nomenclature.  
J Bone Miner Res. 2000 Dec;15(12):2293-6.  
PMID: 11127193 [PubMed - indexed for MEDLINE]
- ☐ **439:** Shalhoub V, Elliott G, Chiu L, Manoukian R, Kelley M, Hawkins N, Davy E, Shimamoto G, Beck J, Kaufman SA, Van G, Scully S, Qi M, Grisanti M, Dunstan C, Boyle WJ, Lacey DL. [Related Articles, Links](#)  
 Characterization of osteoclast precursors in human blood.  
Br J Haematol. 2000 Nov;111(2):501-12.  
PMID: 11122091 [PubMed - indexed for MEDLINE]
- ☐ **440:** Kong YY, Penninger JM. [Related Articles, Links](#)  
 Molecular control of bone remodeling and osteoporosis.  
Exp Gerontol. 2000 Oct;35(8):947-56. Review.  
PMID: 11121682 [PubMed - indexed for MEDLINE]
- ☐ **441:** Fan X, Fan D, Gewant H, Royce CL, Nanes MS, Rubin J. [Related Articles, Links](#)  
 Increasing membrane-bound MCSF does not enhance OPGL-driven osteoclastogenesis from marrow cells.  
Am J Physiol Endocrinol Metab. 2001 Jan;280(1):E103-11.  
PMID: 11120664 [PubMed - indexed for MEDLINE]
- ☐ **442:** Mancini L, Moradi-Bidhendi N, Brandi ML, Perretti M, MacIntyre I. [Related Articles, Links](#)  
 Modulation of the effects of osteoprotegerin (OPG) ligand in a human leukemic cell line by OPG and calcitonin.  
Biochem Biophys Res Commun. 2000 Dec 20;279(2):391-7.  
PMID: 11118297 [PubMed - indexed for MEDLINE]

- ☐ **443:** [Takayanagi H, Ogasawara K, Hida S, Chiba T, Murata S, Sato K, Takaoka A, Yokochi T, Oda H, Tanaka K, Nakamura K, Taniguchi T.](#) Related Articles, Links



T-cell-mediated regulation of osteoclastogenesis by signalling cross-talk between RANKL and IFN-gamma.

Nature. 2000 Nov 30;408(6812):600-5.

PMID: 11117749 [PubMed - indexed for MEDLINE]

- ☐ **444:** [\[No authors listed\]](#)

Related Articles, Links



Proposed standard nomenclature for new tumor necrosis factor members involved in the regulation of bone resorption. The American Society for Bone and Mineral Research President's Committee on Nomenclature.

Bone. 2000 Dec;27(6):761-4. Review.

PMID: 11113385 [PubMed - indexed for MEDLINE]

- ☐ **445:** [Miyamoto T, Arai F, Ohneda O, Takagi K, Anderson DM, Suda T.](#) Related Articles, Links



An adherent condition is required for formation of multinuclear osteoclasts in the presence of macrophage colony-stimulating factor and receptor activator of nuclear factor kappa B ligand.

Blood. 2000 Dec 15;96(13):4335-43.

PMID: 11110710 [PubMed - indexed for MEDLINE]

- ☐ **446:** [Gori F, Hofbauer LC, Dunstan CR, Spelsberg TC, Khosla S, Riggs BL.](#) Related Articles, Links



The expression of osteoprotegerin and RANK ligand and the support of osteoclast formation by stromal-osteoblast lineage cells is developmentally regulated.

Endocrinology. 2000 Dec;141(12):4768-76.

PMID: 11108292 [PubMed - indexed for MEDLINE]

- ☐ **447:** [Takami M, Takahashi N, Udagawa N, Miyaura C, Suda K, Woo JT, Martin TJ, Nagai K, Suda T.](#) Related Articles, Links



Intracellular calcium and protein kinase C mediate expression of receptor activator of nuclear factor-kappaB ligand and osteoprotegerin in osteoblasts.

Endocrinology. 2000 Dec;141(12):4711-9.

PMID: 11108286 [PubMed - indexed for MEDLINE]

- ☐ **448:** [Lee ZH, Kwack K, Kim KK, Lee SH, Kim HH.](#)

Related Articles, Links



Activation of c-Jun N-terminal kinase and activator protein 1 by receptor activator of nuclear factor kappaB.

Mol Pharmacol. 2000 Dec;58(6):1536-45.

PMID: 11093794 [PubMed - indexed for MEDLINE]

- ☐ **449:** [Xu J, Tan JW, Huang L, Gao XH, Laird R, Liu D, Wysocki S, Zheng MH.](#) Related Articles, Links



Cloning, sequencing, and functional characterization of the rat homologue of receptor activator of NF-kappaB ligand.

J Bone Miner Res. 2000 Nov;15(11):2178-86.

PMID: 11092398 [PubMed - indexed for MEDLINE]

- ☐ **450:** [Riggs BL.](#)

Related Articles, Links



The mechanisms of estrogen regulation of bone resorption.

J Clin Invest. 2000 Nov;106(10):1203-4. Review. No abstract available.

PMID: 11086020 [PubMed - indexed for MEDLINE]

- ☐ **451:** [Sakuma Y, Tanaka K, Suda M, Komatsu Y, Yasoda A, Miura M, Ozasa A, Narumiya S, Sugimoto Y, Ichikawa A, Ushikubi F, Nakao K.](#) [Related Articles, Links](#)



Impaired bone resorption by lipopolysaccharide in vivo in mice deficient in the prostaglandin E receptor EP4 subtype.

Infect Immun. 2000 Dec;68(12):6819-25.

PMID: 11083800 [PubMed - indexed for MEDLINE]

- ☐ **452:** [Kong YY, Boyle WJ, Penninger JM.](#) [Related Articles, Links](#)



Osteoprotegerin ligand: a regulator of immune responses and bone physiology.

Immunol Today. 2000 Oct;21(10):495-502. Review. No abstract available.

PMID: 11071528 [PubMed - indexed for MEDLINE]

- ☐ **453:** [Kinpara K, Mogi M, Kuzushima M, Togari A.](#) [Related Articles, Links](#)



Osteoclast differentiation factor in human osteosarcoma cell line.

J Immunoassay. 2000 Nov;21(4):327-40.

PMID: 11071251 [PubMed - indexed for MEDLINE]

- ☐ **454:** [Fata JE, Kong YY, Li J, Sasaki T, Irie-Sasaki J, Moorehead RA, Elliott R, Scully S, Voura EB, Lacey DL, Boyle WJ, Khokha R, Penninger JM.](#) [Related Articles, Links](#)



The osteoclast differentiation factor osteoprotegerin-ligand is essential for mammary gland development.

Cell. 2000 Sep 29;103(1):41-50.

PMID: 11051546 [PubMed - indexed for MEDLINE]

- ☐ **455:** [Fox SW, Fuller K, Bayley KE, Lean JM, Chambers TJ.](#) [Related Articles, Links](#)



TGF-beta 1 and IFN-gamma direct macrophage activation by TNF-alpha to osteoclastic or cytotoxic phenotype.

J Immunol. 2000 Nov 1;165(9):4957-63.

PMID: 11046022 [PubMed - indexed for MEDLINE]

- ☐ **456:** [Willard D, Chen WJ, Barrett G, Blackburn K, Bynum J, Consler T, Hoffman C, Horne E, Iannone MA, Kadwell S, Parham J, Ellis B.](#) [Related Articles, Links](#)



Expression, purification, and characterization of the human receptor activator of NF-kappaB ligand (RANKL) extracellular domain.

Protein Expr Purif. 2000 Oct;20(1):48-57.

PMID: 11035950 [PubMed - indexed for MEDLINE]

- ☐ **457:** [Kaneda T, Nojima T, Nakagawa M, Ogasawara A, Kaneko H, Sato T, Mano H, Kumegawa M, Hakeda Y.](#) [Related Articles, Links](#)



Endogenous production of TGF-beta is essential for osteoclastogenesis induced by a combination of receptor activator of NF-kappa B ligand and macrophage-colony-stimulating factor.

J Immunol. 2000 Oct 15;165(8):4254-63.

PMID: 11035059 [PubMed - indexed for MEDLINE]

- ☐ **458:** [Grcevic D, Lee SK, Marusic A, Lorenzo JA.](#) [Related Articles, Links](#)



Depletion of CD4 and CD8 T lymphocytes in mice in vivo enhances 1,25-dihydroxyvitamin D3-stimulated osteoclast-like cell formation in vitro by a mechanism that is dependent on prostaglandin synthesis.

J Immunol. 2000 Oct 15;165(8):4231-8.

PMID: 11035056 [PubMed - indexed for MEDLINE]

- ☐ **459:** [Zhang YH, Heulsmann A, Tondravi MM, Mukherjee A, Abu-Amer Y.](#) Related Articles, Links



Tumor necrosis factor-alpha (TNF) stimulates RANKL-induced osteoclastogenesis via coupling of TNF type 1 receptor and RANK signaling pathways.

J Biol Chem. 2001 Jan 5;276(1):563-8.

PMID: 11032840 [PubMed - indexed for MEDLINE]

- ☐ **460:** [Kobayashi Y, Hashimoto F, Miyamoto H, Kanaoka K, Miyazaki-Kawashita Y, Nakashima T, Shibata M, Kobayashi K, Kato Y, Sakai H.](#) Related Articles, Links



Force-induced osteoclast apoptosis in vivo is accompanied by elevation in transforming growth factor beta and osteoprotegerin expression.

J Bone Miner Res. 2000 Oct;15(10):1924-34.

PMID: 11028444 [PubMed - indexed for MEDLINE]

- ☐ **461:** [Takeyama S, Yoshimura Y, Shirai Y, Deyama Y, Hasegawa T, Yawaka Y, Kikuri T, Matsumoto A, Fukuda H.](#) Related Articles, Links



Low calcium environment effects osteoprotegerin ligand/osteoclast differentiation factor.

Biochem Biophys Res Commun. 2000 Sep 24;276(2):524-9.

PMID: 11027507 [PubMed - indexed for MEDLINE]

- ☐ **462:** [Borset M, Hjertner O, Yaccoby S, Epstein J, Sanderson RD.](#) Related Articles, Links



Syndecan-1 is targeted to the uropods of polarized myeloma cells where it promotes adhesion and sequesters heparin-binding proteins.

Blood. 2000 Oct 1;96(7):2528-36.

PMID: 11001907 [PubMed - indexed for MEDLINE]

- ☐ **463:** [Teng YT, Nguyen H, Gao X, Kong YY, Gorczynski RM, Singh B, Ellen RP, Penninger JM.](#) Related Articles, Links



Functional human T-cell immunity and osteoprotegerin ligand control alveolar bone destruction in periodontal infection.

J Clin Invest. 2000 Sep;106(6):R59-67.

PMID: 10995794 [PubMed - indexed for MEDLINE]

- ☐ **464:** [Lorenzo J.](#) Related Articles, Links



Interactions between immune and bone cells: new insights with many remaining questions.

J Clin Invest. 2000 Sep;106(6):749-52. No abstract available.

PMID: 10995785 [PubMed - indexed for MEDLINE]

- ☐ **465:** [Schinke T, Karsenty G.](#) Related Articles, Links



Vascular calcification--a passive process in need of inhibitors.

Nephrol Dial Transplant. 2000 Sep;15(9):1272-4. Review. No abstract available.

PMID: 10978374 [PubMed - indexed for MEDLINE]









- ☐ **466:** [Itoh K, Udagawa N, Matsuzaki K, Takami M, Amano H, Shinki T, Ueno Y, Takahashi N, Suda T.](#) Related Articles, Links












Importance of membrane- or matrix-associated forms of M-CSF and RANKL/ODF in osteoclastogenesis supported by SaOS-4/3 cells expressing recombinant PTH/PTHrP receptors.

J Bone Miner Res. 2000 Sep;15(9):1766-75.

PMID: 10976996 [PubMed - indexed for MEDLINE]

- ☐ **467:** [Nakashima T, Kobayashi Y, Yamasaki S, Kawakami A, Eguchi K, Sasaki H, Sakai H.](#) Related Articles, Links
-  Protein expression and functional difference of membrane-bound and soluble receptor activator of NF-kappaB ligand: modulation of the expression by osteotropic factors and cytokines.  
Biochem Biophys Res Commun. 2000 Sep 7;275(3):768-75.  
PMID: 10973797 [PubMed - indexed for MEDLINE]
- ☐ **468:** [Teitelbaum SL.](#) Related Articles, Links
-  Bone resorption by osteoclasts.  
Science. 2000 Sep 1;289(5484):1504-8. Review.  
PMID: 10968780 [PubMed - indexed for MEDLINE]
- ☐ **469:** [Yasuda H.](#) Related Articles, Links
-  [A new paradigm of osteoclast biology: discovery of OCIF and ODF]  
Seikagaku. 2000 Jul;72(7):507-25. Review. Japanese. No abstract available.  
PMID: 10967683 [PubMed - indexed for MEDLINE]
- ☐ **470:** [Udagawa N, Takahashi N, Yasuda H, Mizuno A, Itoh K, Ueno Y, Shinki T, Gillespie MT, Martin TJ, Higashio K, Suda T.](#) Related Articles, Links
-  Osteoprotegerin produced by osteoblasts is an important regulator in osteoclast development and function.  
Endocrinology. 2000 Sep;141(9):3478-84.  
PMID: 10965921 [PubMed - indexed for MEDLINE]
- ☐ **471:** [Neale SD, Smith R, Wass JA, Athanasou NA.](#) Related Articles, Links
-  Osteoclast differentiation from circulating mononuclear precursors in Paget's disease is hypersensitive to 1,25-dihydroxyvitamin D(3) and RANKL.  
Bone. 2000 Sep;27(3):409-16.  
PMID: 10962353 [PubMed - indexed for MEDLINE]
- ☐ **472:** [Weitzmann MN, Cenci S, Rifas L, Brown C, Pacifici R.](#) Related Articles, Links
-  Interleukin-7 stimulates osteoclast formation by up-regulating the T-cell production of soluble osteoclastogenic cytokines.  
Blood. 2000 Sep 1;96(5):1873-8.  
PMID: 10961889 [PubMed - indexed for MEDLINE]
- ☐ **473:** [Shiba H, Nakanishi K, Sakata M, Fujita T, Uchida Y, Kurihara H.](#) Related Articles, Links
-  Effects of ageing on proliferative ability, and the expressions of secreted protein, acidic and rich in cysteine (SPARC) and osteoprotegerin (osteoclastogenesis inhibitory factor) in cultures of human periodontal ligament cells.  
Mech Ageing Dev. 2000 Aug 15;117(1-3):69-77.  
PMID: 10958924 [PubMed - indexed for MEDLINE]
- ☐ **474:** [Itonaga I, Fujikawa Y, Sabokbar A, Murray DW, Athanasou NA.](#) Related Articles, Links
-  Rheumatoid arthritis synovial macrophage-osteoclast differentiation is osteoprotegerin ligand-dependent.  
J Pathol. 2000 Sep;192(1):97-104.  
PMID: 10951406 [PubMed - indexed for MEDLINE]
- ☐ **475:** [Chambers TJ.](#) Related Articles, Links

-  Regulation of the differentiation and function of osteoclasts.  
J Pathol. 2000 Sep;192(1):4-13. Review.  
PMID: 10951393 [PubMed - indexed for MEDLINE]
- ☐ **476:** [Quinn JM](#), [Horwood NJ](#), [Elliott J](#), [Gillespie MT](#), [Martin TJ](#). [Related Articles](#), [Links](#)
-  Fibroblastic stromal cells express receptor activator of NF-kappa B ligand and support osteoclast differentiation.  
J Bone Miner Res. 2000 Aug;15(8):1459-66.  
PMID: 10934644 [PubMed - indexed for MEDLINE]
- ☐ **477:** [Lacey DL](#), [Tan HL](#), [Lu J](#), [Kaufman S](#), [Van G](#), [Qiu W](#), [Rattan A](#), [Scully S](#), [Fletcher F](#), [Juan T](#), [Kelley M](#), [Burgess TL](#), [Boyle WJ](#), [Polverino AJ](#). [Related Articles](#), [Links](#)
-  Osteoprotegerin ligand modulates murine osteoclast survival in vitro and in vivo.  
Am J Pathol. 2000 Aug;157(2):435-48.  
PMID: 10934148 [PubMed - indexed for MEDLINE]
- ☐ **478:** [O'Brien EA](#), [Williams JH](#), [Marshall MJ](#). [Related Articles](#), [Links](#)
-  Osteoprotegerin ligand regulates osteoclast adherence to the bone surface in mouse calvaria.  
Biochem Biophys Res Commun. 2000 Aug 2;274(2):281-90.  
PMID: 10913332 [PubMed - indexed for MEDLINE]
- ☐ **479:** [Yamane T](#), [Kunisada T](#), [Yamazaki H](#), [Nakano T](#), [Orkin SH](#), [Hayashi SI](#). [Related Articles](#), [Links](#)
-  Sequential requirements for SCL/tal-1, GATA-2, macrophage colony-stimulating factor, and osteoclast differentiation factor/osteoprotegerin ligand in osteoclast development.  
Exp Hematol. 2000 Jul;28(7):833-40.  
PMID: 10907645 [PubMed - indexed for MEDLINE]
- ☐ **480:** [Tsurukai T](#), [Udagawa N](#), [Matsuzaki K](#), [Takahashi N](#), [Suda T](#). [Related Articles](#), [Links](#)
-  Roles of macrophage-colony stimulating factor and osteoclast differentiation factor in osteoclastogenesis.  
J Bone Miner Metab. 2000;18(4):177-84.  
PMID: 10874596 [PubMed - indexed for MEDLINE]
- ☐ **481:** [Lubberts E](#), [Joosten LA](#), [Chabaud M](#), [van Den Bersselaar L](#), [Oppers B](#), [Coenen-De Roo CJ](#), [Richards CD](#), [Miossec P](#), [van Den Berg WB](#). [Related Articles](#), [Links](#)
-  IL-4 gene therapy for collagen arthritis suppresses synovial IL-17 and osteoprotegerin ligand and prevents bone erosion.  
J Clin Invest. 2000 Jun;105(12):1697-710.  
PMID: 10862785 [PubMed - indexed for MEDLINE]
- ☐ **482:** [Rani CS](#), [MacDougall M](#). [Related Articles](#), [Links](#)
-  Dental cells express factors that regulate bone resorption.  
Mol Cell Biol Res Commun. 2000 Mar;3(3):145-52.  
PMID: 10860862 [PubMed - indexed for MEDLINE]
- ☐ **483:** [Gunther T](#), [Schinke T](#). [Related Articles](#), [Links](#)
-  Mouse genetics have uncovered new paradigms in bone biology.  
Trends Endocrinol Metab. 2000 Jul;11(5):189-93. Review.  
PMID: 10856921 [PubMed - indexed for MEDLINE]



- ☐ **484:** [Thirunavukkarasu K, Halladay DL, Miles RR, Yang X, Galvin RJ, Chandrasekhar S, Martin TJ, Onyia JE.](#) Related Articles, Links



The osteoblast-specific transcription factor Cbfa1 contributes to the expression of osteoprotegerin, a potent inhibitor of osteoclast differentiation and function.

J Biol Chem. 2000 Aug 18;275(33):25163-72.

PMID: 10833509 [PubMed - indexed for MEDLINE]

- ☐ **485:** [Mbalaviele G, Abu-Amer Y, Meng A, Jaiswal R, Beck S, Pittenger MF, Thiede MA, Marshak DR.](#) Related Articles, Links



Activation of peroxisome proliferator-activated receptor-gamma pathway inhibits osteoclast differentiation.

J Biol Chem. 2000 May 12;275(19):14388-93.

PMID: 10799521 [PubMed - indexed for MEDLINE]

- ☐ **486:** [Aubin JE, Bonnelye E.](#) Related Articles, Links



Osteoprotegerin and its ligand: A new paradigm for regulation of osteoclastogenesis and bone resorption.

Medscape Womens Health. 2000 Mar;5(2):5. Review.

PMID: 10792853 [PubMed - indexed for MEDLINE]

- ☐ **487:** [Atkins GJ, Haynes DR, Graves SE, Evdokiou A, Hay S, Bouralexis S, Findlay DM.](#) Related Articles, Links



Expression of osteoclast differentiation signals by stromal elements of giant cell tumors.

J Bone Miner Res. 2000 Apr;15(4):640-9.

PMID: 10780856 [PubMed - indexed for MEDLINE]

- ☐ **488:** [Mukohyama H, Ransjo M, Taniguchi H, Ohyama T, Lerner UH.](#) Related Articles, Links



The inhibitory effects of vasoactive intestinal peptide and pituitary adenylate cyclase-activating polypeptide on osteoclast formation are associated with upregulation of osteoprotegerin and downregulation of RANKL and RANK.

Biochem Biophys Res Commun. 2000 Apr 29;271(1):158-63.

PMID: 10777696 [PubMed - indexed for MEDLINE]

- ☐ **489:** [Ross FP.](#) Related Articles, Links



RANKing the importance of measles virus in Paget's disease.

J Clin Invest. 2000 Mar;105(5):555-8. No abstract available.

PMID: 10712423 [PubMed - indexed for MEDLINE]

- ☐ **490:** [Huang L, Xu J, Wood DJ, Zheng MH.](#) Related Articles, Links



Gene expression of osteoprotegerin ligand, osteoprotegerin, and receptor activator of NF-kappaB in giant cell tumor of bone: possible involvement in tumor cell-induced osteoclast-like cell formation.

Am J Pathol. 2000 Mar;156(3):761-7.


PMID: 10702390 [PubMed - indexed for MEDLINE]

- ☐ **491:** [Li J, Sarosi I, Yan XQ, Morony S, Capparelli C, Tan HL, McCabe S, Elliott R, Scully S, Van G, Kaufman S, Juan SC, Sun Y, Tarpley J, Martin L, Christensen K, McCabe J, Kostenuik P, Hsu H, Fletcher F, Dunstan CR, Lacey DL, Boyle WJ.](#) Related Articles, Links




RANK is the intrinsic hematopoietic cell surface receptor that controls

osteoclastogenesis and regulation of bone mass and calcium metabolism.  
Proc Natl Acad Sci U S A. 2000 Feb 15;97(4):1566-71.  
PMID: 10677500 [PubMed - indexed for MEDLINE]

-  **492:** [Takayanagi H, Iizuka H, Juji T, Nakagawa T, Yamamoto A, Miyazaki T, Koshihara Y, Oda H, Nakamura K, Tanaka S.](#) Related Articles, Links



Involvement of receptor activator of nuclear factor kappaB ligand/osteoclast differentiation factor in osteoclastogenesis from synoviocytes in rheumatoid arthritis.  
Arthritis Rheum. 2000 Feb;43(2):259-69.  
PMID: 10693864 [PubMed - indexed for MEDLINE]

-  **493:** [Gravallese EM, Manning C, Tsay A, Naito A, Pan C, Amento E, Goldring SR.](#) Related Articles, Links



Synovial tissue in rheumatoid arthritis is a source of osteoclast differentiation factor.  
Arthritis Rheum. 2000 Feb;43(2):250-8.  
PMID: 10693863 [PubMed - indexed for MEDLINE]

-  **494:** [Tricot G.](#) Related Articles, Links




New insights into role of microenvironment in multiple myeloma.  
Lancet. 2000 Jan 22;355(9200):248-50. Review. No abstract available.  
PMID: 10675068 [PubMed - indexed for MEDLINE]

-  **495:** [Thomas T, Lafage-Proust MH.](#) Related Articles, Links




Contribution of genetically modified mouse models to the elucidation of bone physiology.  
Rev Rhum Engl Ed. 1999 Dec;66(12):728-35. Review.  
PMID: 10649609 [PubMed - indexed for MEDLINE]

-  **496:** [Hofbauer LC, Khosla S, Dunstan CR, Lacey DL, Boyle WJ, Riggs BL.](#) Related Articles, Links



The roles of osteoprotegerin and osteoprotegerin ligand in the paracrine regulation of bone resorption.  
J Bone Miner Res. 2000 Jan;15(1):2-12. Review.  
PMID: 10646108 [PubMed - indexed for MEDLINE]

-  **497:** [Chikatsu N, Takeuchi Y, Tamura Y, Fukumoto S, Yano K, Tsuda E, Ogata E, Fujita T.](#) Related Articles, Links




Interactions between cancer and bone marrow cells induce osteoclast differentiation factor expression and osteoclast-like cell formation in vitro.  
Biochem Biophys Res Commun. 2000 Jan 19;267(2):632-7.  
PMID: 10631114 [PubMed - indexed for MEDLINE]

-  **498:** [Itonaga I, Sabokbar A, Murray DW, Athanasou NA.](#) Related Articles, Links



Effect of osteoprotegerin and osteoprotegerin ligand on osteoclast formation by arthroplasty membrane derived macrophages.  
Ann Rheum Dis. 2000 Jan;59(1):26-31.  
PMID: 10627423 [PubMed - indexed for MEDLINE]

-  **499:** [Kong YY, Feige U, Sarosi I, Bolon B, Tafuri A, Morony S, Capparelli C, Li J, Elliott R, McCabe S, Wong T, Campagnuolo G, Moran E, Bogoch ER, Van G, Nguyen LT, Ohashi PS, Lacey DL, Fish E, Boyle WJ, Penninger JM.](#) Related Articles, Links

Activated T cells regulate bone loss and joint destruction in adjuvant



arthritis through osteoprotegerin ligand.

Nature. 1999 Nov 18;402(6759):304-9.

PMID: 10580503 [PubMed - indexed for MEDLINE]



**500:** [Udagawa N, Takahashi N, Jimi E, Matsuzaki K, Tsurukai T, Itoh K, Nakagawa N, Yasuda H, Goto M, Tsuda E, Higashio K, Gillespie MT, Martin TJ, Suda T.](#) [Related Articles](#), [Links](#)



Osteoblasts/stromal cells stimulate osteoclast activation through expression of osteoclast differentiation factor/RANKL but not macrophage colony-stimulating factor: receptor activator of NF-kappa B ligand.

Bone. 1999 Nov;25(5):517-23.

PMID: 10574571 [PubMed - indexed for MEDLINE]

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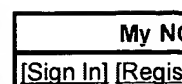
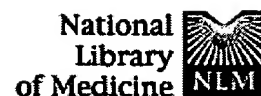
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- ☐ **501:** [Nakagawa N, Yasuda H, Yano K, Mochizuki S, Kobayashi N, Fujimoto H, Shima N, Morinaga T, Chikazu D, Kawaguchi H, Higashio K.](#) Related Articles, Links



Basic fibroblast growth factor induces osteoclast formation by reciprocally regulating the production of osteoclast differentiation factor and osteoclastogenesis inhibitory factor in mouse osteoblastic cells. *Biochem Biophys Res Commun.* 1999 Nov;265(1):158-63. PMID: 10548507 [PubMed - indexed for MEDLINE]

- ☐ **502:** [Nakagawa N, Yasuda H, Yano K, Mochizuki S, Kobayashi N, Fujimoto H, Yamaguchi K, Shima N, Morinaga T, Higashio K.](#) Related Articles, Links



Basic fibroblast growth factor inhibits osteoclast formation induced by 1alpha,25-dihydroxyvitamin D(3) through suppressing the production of osteoclast differentiation factor. *Biochem Biophys Res Commun.* 1999 Nov;265(1):45-50. PMID: 10548488 [PubMed - indexed for MEDLINE]

- ☐ **503:** [Greenfield EM, Bi Y, Miyauchi A.](#) Related Articles, Links



Regulation of osteoclast activity. *Life Sci.* 1999;65(11):1087-102. Review. PMID: 10503925 [PubMed - indexed for MEDLINE]

- ☐ **504:** [Thomas RJ, Guise TA, Yin JJ, Elliott J, Horwood NJ, Martin TJ, Gillespie MT.](#) Related Articles, Links



Breast cancer cells interact with osteoblasts to support osteoclast formation. *Endocrinology.* 1999 Oct;140(10):4451-8. PMID: 10499498 [PubMed - indexed for MEDLINE]

- ☐ **505:** [Hofbauer LC, Gori F, Riggs BL, Lacey DL, Dunstan CR, Spelsberg TC, Khosla S.](#) Related Articles, Links



Stimulation of osteoprotegerin ligand and inhibition of osteoprotegerin production by glucocorticoids in human osteoblastic lineage cells: potential paracrine mechanisms of glucocorticoid-induced osteoporosis. *Endocrinology.* 1999 Oct;140(10):4382-9. PMID: 10499489 [PubMed - indexed for MEDLINE]

- ☐ **506:** [Hofbauer LC, Lacey DL, Dunstan CR, Spelsberg TC, Riggs BL, Khosla S.](#) Related Articles, Links



Interleukin-1beta and tumor necrosis factor-alpha, but not interleukin-6, stimulate osteoprotegerin ligand gene expression in human osteoblastic

cells.

Bone. 1999 Sep;25(3):255-9.

PMID: 10495128 [PubMed - indexed for MEDLINE]

☐ **507:** [Hofbauer LC.](#)

[Related Articles, Links](#)



Osteoprotegerin ligand and osteoprotegerin: novel implications for osteoclast biology and bone metabolism.

Eur J Endocrinol. 1999 Sep;141(3):195-210. Review. No abstract available.

PMID: 10474114 [PubMed - indexed for MEDLINE]

☐ **508:** [Lee SK, Lorenzo JA.](#)

[Related Articles, Links](#)



Parathyroid hormone stimulates TRANCE and inhibits osteoprotegerin messenger ribonucleic acid expression in murine bone marrow cultures: correlation with osteoclast-like cell formation.

Endocrinology. 1999 Aug;140(8):3552-61.

PMID: 10433211 [PubMed - indexed for MEDLINE]

☐ **509:** [Roodman GD.](#)

[Related Articles, Links](#)



Cell biology of the osteoclast.

Exp Hematol. 1999 Aug;27(8):1229-41. Review.

PMID: 10428500 [PubMed - indexed for MEDLINE]

☐ **510:** [Yasuda H, Shima N, Nakagawa N, Yamaguchi K, Kinosaki M, Goto M, Mochizuki SI, Tsuda E, Morinaga T, Udagawa N, Takahashi N, Suda T, Higashio K.](#) [Related Articles, Links](#)



A novel molecular mechanism modulating osteoclast differentiation and function.

Bone. 1999 Jul;25(1):109-13.

PMID: 10423033 [PubMed - indexed for MEDLINE]

☐ **511:** [Hayashi S, Yamane T, Miyamoto A, Hemmi H, Tagaya H, Tanio Y, Kanda H, Yamazaki H, Kunisada T.](#)

[Related Articles, Links](#)



Commitment and differentiation of stem cells to the osteoclast lineage.

Biochem Cell Biol. 1998;76(6):911-22. Review.

PMID: 10392705 [PubMed - indexed for MEDLINE]

☐ **512:** [Jimi E, Akiyama S, Tsurukai T, Okahashi N, Kobayashi K, Udagawa N, Nishihara T, Takahashi N, Suda T.](#)

[Related Articles, Links](#)



Osteoclast differentiation factor acts as a multifunctional regulator in murine osteoclast differentiation and function.

J Immunol. 1999 Jul 1;163(1):434-42.

PMID: 10384146 [PubMed - indexed for MEDLINE]

☐ **513:** [Wong BR, Josien R, Choi Y.](#)

[Related Articles, Links](#)



TRANCE is a TNF family member that regulates dendritic cell and osteoclast function.

J Leukoc Biol. 1999 Jun;65(6):715-24. Review.

PMID: 10380891 [PubMed - indexed for MEDLINE]









☐ **514:** [Zhang XD, Franco A, Myers K, Gray C, Nguyen T, Hersey P.](#) [Related Articles, Links](#)



Relation of TNF-related apoptosis-inducing ligand (TRAIL) receptor and FLICE-inhibitory protein expression to TRAIL-induced apoptosis of melanoma.

Cancer Res. 1999 Jun 1;59(11):2747-53.

PMID: 10364001 [PubMed - indexed for MEDLINE]

- ☐ **515:** [Kong YY, Boyle WJ, Penninger JM.](#) [Related Articles, Links](#)  
 Osteoprotegerin ligand: a common link between osteoclastogenesis, lymph node formation and lymphocyte development.  
Immunol Cell Biol. 1999 Apr;77(2):188-93. Review.  
PMID: 10234557 [PubMed - indexed for MEDLINE]
- ☐ **516:** [Burgess TL, Qian Y, Kaufman S, Ring BD, Van G, Capparelli C, Kelley M, Hsu H, Boyle WJ, Dunstan CR, Hu S, Lacey DL.](#) [Related Articles, Links](#)  
 The ligand for osteoprotegerin (OPGL) directly activates mature osteoclasts.  
J Cell Biol. 1999 May 3;145(3):527-38.  
PMID: 10225954 [PubMed - indexed for MEDLINE]
- ☐ **517:** [Lomaga MA, Yeh WC, Sarosi I, Duncan GS, Furlonger C, Ho A, Morony S, Capparelli C, Van G, Kaufman S, van der Heiden A, Itie A, Wakeham A, Khoo W, Sasaki T, Cao Z, Penninger JM, Paige CJ, Lacey DL, Dunstan CR, Boyle WJ, Goeddel DV, Mak TW.](#) [Related Articles, Links](#)  
 TRAF6 deficiency results in osteopetrosis and defective interleukin-1, CD40, and LPS signaling.  
Genes Dev. 1999 Apr 15;13(8):1015-24.  
PMID: 10215628 [PubMed - indexed for MEDLINE]
- ☐ **518:** [Kitazawa R, Kitazawa S, Maeda S.](#) [Related Articles, Links](#)  
 Promoter structure of mouse RANKL/TRANCE/OPGL/ODF gene.  
Biochim Biophys Acta. 1999 Apr 14;1445(1):134-41.  
PMID: 10209265 [PubMed - indexed for MEDLINE]
- ☐ **519:** [Akiyama H, Shigeno C, Iyama K, Ito H, Hiraki Y, Konishi J, Nakamura T.](#) [Related Articles, Links](#)  
 Indian hedgehog in the late-phase differentiation in mouse chondrogenic EC cells, ATDC5: upregulation of type X collagen and osteoprotegerin ligand mRNAs.  
Biochem Biophys Res Commun. 1999 Apr 21;257(3):814-20.  
PMID: 10208865 [PubMed - indexed for MEDLINE]
- ☐ **520:** [Nagai M, Sato N.](#) [Related Articles, Links](#)  
 Reciprocal gene expression of osteoclastogenesis inhibitory factor and osteoclast differentiation factor regulates osteoclast formation.  
Biochem Biophys Res Commun. 1999 Apr 21;257(3):719-23.  
PMID: 10208850 [PubMed - indexed for MEDLINE]
- ☐ **521:** [Kodaira K, Kodaira K, Mizuno A, Yasuda H, Shima N, Murakami A, Ueda M, Higashio K.](#) [Related Articles, Links](#)  
 Cloning and characterization of the gene encoding mouse osteoclast differentiation factor.  
Gene. 1999 Apr 1;230(1):121-7.  
PMID: 10196481 [PubMed - indexed for MEDLINE]
- ☐ **522:** [Hsu H, Lacey DL, Dunstan CR, Solovyev I, Colombero A, Timms E, Tan HL, Elliott G, Kelley MJ, Sarosi I, Wang L, Xia XZ, Elliott R, Chiu L, Black T, Scully S, Capparelli C, Morony S, Shimamoto G, Bass MB, Boyle WJ.](#) [Related Articles, Links](#)  
 Tumor necrosis factor receptor family member RANK mediates osteoclast differentiation and activation induced by osteoprotegerin ligand.

Proc Natl Acad Sci U S A. 1999 Mar 30;96(7):3540-5.  
PMID: 10097072 [PubMed - indexed for MEDLINE]

- ☐ **523:** Takahashi N, Udagawa N, Suda T. Related Articles, Links



A new member of tumor necrosis factor ligand family, ODF/OPGL/TRANCE/RANKL, regulates osteoclast differentiation and function.

Biochem Biophys Res Commun. 1999 Mar 24;256(3):449-55. Review.  
PMID: 10080918 [PubMed - indexed for MEDLINE]

- ☐ **524:** Faust J, Lacey DL, Hunt P, Burgess TL, Scully S, Van G, Eli A, Qian Y, Shalhoub V. Related Articles, Links



Osteoclast markers accumulate on cells developing from human peripheral blood mononuclear precursors.

J Cell Biochem. 1999 Jan 1;72(1):67-80.  
PMID: 10025668 [PubMed - indexed for MEDLINE]

- ☐ **525:** Shalhoub V, Faust J, Boyle WJ, Dunstan CR, Kelley M, Kaufman S, Scully S, Van G, Lacey DL. Related Articles, Links



Osteoprotegerin and osteoprotegerin ligand effects on osteoclast formation from human peripheral blood mononuclear cell precursors.

J Cell Biochem. 1999 Feb 1;72(2):251-61.  
PMID: 10022507 [PubMed - indexed for MEDLINE]

- ☐ **526:** Kong YY, Yoshida H, Sarosi I, Tan HL, Timms E, Capparelli C, Morony S, Oliveira-dos-Santos AJ, Van G, Itie A, Khoo W, Wakeham A, Dunstan CR, Lacey DL, Mak TW, Boyle WJ, Penninger JM. Related Articles, Links



OPGL is a key regulator of osteoclastogenesis, lymphocyte development and lymph-node organogenesis.

Nature. 1999 Jan 28;397(6717):315-23.  
PMID: 9950424 [PubMed - indexed for MEDLINE]

- ☐ **527:** Schinke T, McKee MD, Kiviranta R, Karsenty G. Related Articles, Links



Molecular determinants of arterial calcification.

Ann Med. 1998 Dec;30(6):538-41.  
PMID: 9920355 [PubMed - indexed for MEDLINE]

- ☐ **528:** Nakagawa N, Kinosaki M, Yamaguchi K, Shima N, Yasuda H, Yano K, Morinaga T, Higashio K. Related Articles, Links



RANK is the essential signaling receptor for osteoclast differentiation factor in osteoclastogenesis.

Biochem Biophys Res Commun. 1998 Dec 18;253(2):395-400.  
PMID: 9878548 [PubMed - indexed for MEDLINE]

- ☐ **529:** Gao YH, Shinki T, Yuasa T, Kataoka-Enomoto H, Komori T, Suda T, Yamaguchi A. Related Articles, Links



Potential role of cbf1, an essential transcriptional factor for osteoblast differentiation, in osteoclastogenesis: regulation of mRNA expression of osteoclast differentiation factor (ODF).

Biochem Biophys Res Commun. 1998 Nov 27;252(3):697-702.  
PMID: 9837769 [PubMed - indexed for MEDLINE]

- ☐ **530:** Horwood NJ, Elliott J, Martin TJ, Gillespie MT. Related Articles, Links



Osteotropic agents regulate the expression of osteoclast differentiation factor and osteoprotegerin in osteoblastic stromal cells.

Endocrinology. 1998 Nov;139(11):4743-6.  
PMID: 9794488 [PubMed - indexed for MEDLINE]

- ☐ **531:** Filvaroff E, Derynck R. Related Articles, Links



Bone remodelling: a signalling system for osteoclast regulation.  
Curr Biol. 1998 Sep 24;8(19):R679-82. Review.  
PMID: 9768352 [PubMed - indexed for MEDLINE]

- ☐ **532:** Fuller K, Wong B, Fox S, Choi Y, Chambers TJ. Related Articles, Links



TRANCE is necessary and sufficient for osteoblast-mediated activation of bone resorption in osteoclasts.  
J Exp Med. 1998 Sep 7;188(5):997-1001.  
PMID: 9730902 [PubMed - indexed for MEDLINE]

- ☐ **533:** Hofbauer LC, Heufelder AE. Related Articles, Links



Osteoprotegerin and its cognate ligand: a new paradigm of osteoclastogenesis.  
Eur J Endocrinol. 1998 Aug;139(2):152-4. Review. No abstract available.  
PMID: 9724069 [PubMed - indexed for MEDLINE]

- ☐ **534:** Tsukii K, Shima N, Mochizuki S, Yamaguchi K, Kinoshita M, Yano K, Shibata O, Udagawa N, Yasuda H, Suda T, Higashio K. Related Articles, Links



Osteoclast differentiation factor mediates an essential signal for bone resorption induced by 1 alpha,25-dihydroxyvitamin D3, prostaglandin E2, or parathyroid hormone in the microenvironment of bone.  
Biochem Biophys Res Commun. 1998 May 19;246(2):337-41.  
PMID: 9610359 [PubMed - indexed for MEDLINE]

- ☐ **535:** Matsuzaki K, Udagawa N, Takahashi N, Yamaguchi K, Yasuda H, Shima N, Morinaga T, Toyama Y, Yabe Y, Higashio K, Suda T. Related Articles, Links



Osteoclast differentiation factor (ODF) induces osteoclast-like cell formation in human peripheral blood mononuclear cell cultures.  
Biochem Biophys Res Commun. 1998 May 8;246(1):199-204.  
PMID: 9600092 [PubMed - indexed for MEDLINE]

- ☐ **536:** Yasuda H, Shima N, Nakagawa N, Yamaguchi K, Kinoshita M, Mochizuki S, Tomoyasu A, Yano K, Goto M, Murakami A, Tsuda E, Morinaga T, Higashio K, Udagawa N, Takahashi N, Suda T. Related Articles, Links



Osteoclast differentiation factor is a ligand for osteoprotegerin/osteoclastogenesis-inhibitory factor and is identical to TRANCE/RANKL.  
Proc Natl Acad Sci U S A. 1998 Mar 31;95(7):3597-602.  
PMID: 9520411 [PubMed - indexed for MEDLINE]

- ☐ **537:** Lacey DL, Timms E, Tan HL, Kelley MJ, Dunstan CR, Burgess T, Elliott R, Colombero A, Elliott G, Scully S, Hsu H, Sullivan J, Hawkins N, Davy E, Capparelli C, Eli A, Qian YX, Kaufman S, Sarosi I, Shalhoub V, Senaldi G, Guo J, Delaney J, Boyle WJ. Related Articles, Links



Osteoprotegerin ligand is a cytokine that regulates osteoclast differentiation and activation.  
Cell. 1998 Apr 17;93(2):165-76.  
PMID: 9568710 [PubMed - indexed for MEDLINE]



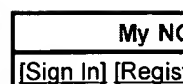
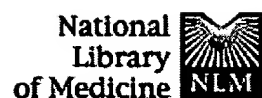
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1: Lee CK, Lee EY, Chung SM, Mun SH, Yoo B, Moon HB.

Related Articles, Links



Effects of disease-modifying antirheumatic drugs and antiinflammatory cytokines on human osteoclastogenesis through interaction with receptor activator of nuclear factor kappaB, osteoprotegerin, and receptor activator of nuclear factor kappaB ligand.

Arthritis Rheum. 2004 Dec;50(12):3831-43.

PMID: 15593184 [PubMed - indexed for MEDLINE]

2: Franchimont N, Reenaers C, Lambert C, Belaiche J, Bours V, Malaise M, Delvenne P, Louis E.

Related Articles, Links



Increased expression of receptor activator of NF-kappaB ligand (RANKL), its receptor RANK and its decoy receptor osteoprotegerin in the colon of Crohn's disease patients.

Clin Exp Immunol. 2004 Dec;138(3):491-8.

PMID: 15544627 [PubMed - indexed for MEDLINE]

3: Wang BL, Qiu MC, Guo G, Liang DC, Zhang JY.

Related Articles, Links



Expression, purification and bioactivity characterization of extracellular domain of murine osteoprotegerin ligand.

Yi Chuan Xue Bao. 2004 Jul;31(7):675-81.

PMID: 15473318 [PubMed - indexed for MEDLINE]

4: Nakano K, Okada Y, Saito K, Tanaka Y.

Related Articles, Links



Induction of RANKL expression and osteoclast maturation by the binding of fibroblast growth factor 2 to heparan sulfate proteoglycan on rheumatoid synovial fibroblasts.

Arthritis Rheum. 2004 Aug;50(8):2450-8.

PMID: 15334457 [PubMed - indexed for MEDLINE]

5: Granchi D, Amato I, Battistelli L, Avnet S, Capaccioli S, Papucci L, Donnini M, Pellacani A, Brandi ML, Giunti A, Baldini N.

Related Articles, Links



In vitro blockade of receptor activator of nuclear factor-kappaB ligand prevents osteoclastogenesis induced by neuroblastoma cells.

Int J Cancer. 2004 Oct 10;111(6):829-38.

PMID: 15300794 [PubMed - indexed for MEDLINE]

6: Hofbauer LC, Schoppet M.









Related Articles, Links



Clinical implications of the osteoprotegerin/RANKL/RANK system for bone and vascular diseases.

JAMA. 2004 Jul 28;292(4):490-5. Review.

PMID: 15280347 [PubMed - indexed for MEDLINE]

- ☐ **7:** [Nociti FH Jr, Foster BL, Barros SP, Darveau RP, Somerman MJ.](#) Related Articles, Links  
 Cementoblast gene expression is regulated by *Porphyromonas gingivalis* lipopolysaccharide partially via toll-like receptor-4/MD-2.  
J Dent Res. 2004 Aug;83(8):602-7.  
PMID: 15271967 [PubMed - indexed for MEDLINE]
- ☐ **8:** [Lai FP, Cole-Sinclair M, Cheng WJ, Quinn JM, Gillespie MT, Sentry JW, Schneider HG.](#) Related Articles, Links  
 Myeloma cells can directly contribute to the pool of RANKL in bone bypassing the classic stromal and osteoblast pathway of osteoclast stimulation.  
Br J Haematol. 2004 Jul;126(2):192-201.  
PMID: 15238139 [PubMed - indexed for MEDLINE]
- ☐ **9:** [Okada Y, Tsukada J, Nakano K, Tonai S, Mine S, Tanaka Y.](#) Related Articles, Links  
 Macrophage inflammatory protein-1alpha induces hypercalcemia in adult T-cell leukemia.  
J Bone Miner Res. 2004 Jul;19(7):1105-11. Epub 2004 Mar 15.  
PMID: 15176993 [PubMed - indexed for MEDLINE]
- ☐ **10:** [Seshasayee D, Wang H, Lee WP, Gribbling P, Ross J, Van Bruggen N, Carano R, Grewal IS.](#) Related Articles, Links  
 A novel in vivo role for osteoprotegerin ligand in activation of monocyte effector function and inflammatory response.  
J Biol Chem. 2004 Jul 16;279(29):30202-9. Epub 2004 May 15.  
PMID: 15145935 [PubMed - indexed for MEDLINE]
- ☐ **11:** [MacQuarrie RA, Fang Chen Y, Coles C, Anderson GI.](#) Related Articles, Links  
 Wear-particle-induced osteoclast osteolysis: the role of particulates and mechanical strain.  
J Biomed Mater Res B Appl Biomater. 2004 Apr 15;69(1):104-12.  
PMID: 15015218 [PubMed - indexed for MEDLINE]
- ☐ **12:** [Hayashi S, Tsuneto M, Yamada T, Nose M, Yoshino M, Shultz LD, Yamazaki H.](#) Related Articles, Links  
 Lipopolysaccharide-induced osteoclastogenesis in Src homology 2-domain phosphatase-1-deficient viable motheaten mice.  
Endocrinology. 2004 Jun;145(6):2721-9. Epub 2004 Feb 26.  
PMID: 14988381 [PubMed - indexed for MEDLINE]
- ☐ **13:** [Valverde P, Kawai T, Taubman MA.](#) Related Articles, Links  
 Selective blockade of voltage-gated potassium channels reduces inflammatory bone resorption in experimental periodontal disease.  
J Bone Miner Res. 2004 Jan;19(1):155-64.  
PMID: 14753747 [PubMed - indexed for MEDLINE]
- ☐ **14:** [Theoleyre S, Wittrant Y, Couillaud S, Vusio P, Berreur M, Dunstan C, Blanchard F, Redini F, Heymann D.](#) Related Articles, Links  
 Cellular activity and signaling induced by osteoprotegerin in osteoclasts: involvement of receptor activator of nuclear factor kappaB ligand and MAPK.  
Biochim Biophys Acta. 2004 Feb 2;1644(1):1-7.  
PMID: 14741739 [PubMed - indexed for MEDLINE]
- ☐ **15:** [Guillonneau C, Louvet C, Renaudin K, Heslan JM, Heslan M.](#) Related Articles, Links

Tesson L, Vignes C, Guillot C, Choi Y, Turka LA, Cuturi MC, Anegon I, Josien R.



The role of TNF-related activation-induced cytokine-receptor activating NF-kappa B interaction in acute allograft rejection and CD40L-independent chronic allograft rejection.

J Immunol. 2004 Feb 1;172(3):1619-29.

PMID: 14734743 [PubMed - indexed for MEDLINE]

- ☐ 16: Zwerina J, Hayer S, Tohidast-Akrad M, Bergmeister H, Redlich K, Feige U, Dunstan C, Kollias G, Steiner G, Smolen J, Schett G. Related Articles, Links



Single and combined inhibition of tumor necrosis factor, interleukin-1, and RANKL pathways in tumor necrosis factor-induced arthritis: effects on synovial inflammation, bone erosion, and cartilage destruction.

Arthritis Rheum. 2004 Jan;50(1):277-90.

PMID: 14730626 [PubMed - indexed for MEDLINE]

- ☐ 17: Wittrant Y, Theoleyre S, Couillaud S, Dunstan C, Heymann D, Redini F. Related Articles, Links



Relevance of an in vitro osteoclastogenesis system to study receptor activator of NF-kB ligand and osteoprotegerin biological activities.

Exp Cell Res. 2004 Feb 15;293(2):292-301.

PMID: 14729467 [PubMed - indexed for MEDLINE]

- ☐ 18: Crotti TN, Ahern MJ, Lange K, Weedon H, Coleman M, Roberts-Thomson PJ, Haynes DR, Smith MD. Related Articles, Links



Variability of RANKL and osteoprotegerin staining in synovial tissue from patients with active rheumatoid arthritis: quantification using color video image analysis.

J Rheumatol. 2003 Nov;30(11):2319-24.

PMID: 14677171 [PubMed - indexed for MEDLINE]

- ☐ 19: Zhang J, Dai J, Yao Z, Lu Y, Dougall W, Keller ET. Related Articles, Links



Soluble receptor activator of nuclear factor kappaB Fc diminishes prostate cancer progression in bone.

Cancer Res. 2003 Nov 15;63(22):7883-90.

PMID: 14633717 [PubMed - indexed for MEDLINE]

- ☐ 20: Padigel UM, Kim N, Choi Y, Farrell JP. Related Articles, Links



TRANCE-RANK costimulation is required for IL-12 production and the initiation of a Th1-type response to Leishmania major infection in CD40L-deficient mice.

J Immunol. 2003 Nov 15;171(10):5437-41.

PMID: 14607948 [PubMed - indexed for MEDLINE]

- ☐ 21: Nagata N, Kitaura H, Yoshida N, Nakayama K. Related Articles, Links



Inhibition of RANKL-induced osteoclast formation in mouse bone marrow cells by IL-12: involvement of IFN-gamma possibly induced from non-T cell population.

Bone. 2003 Oct;33(4):721-32.

PMID: 14555278 [PubMed - indexed for MEDLINE]

- ☐ 22: Lee HA, Jeong H, Kim EY, Nam MY, Yoo YJ, Seo JT, Shin DM, Ohk SH, Lee SI. Related Articles, Links



Bumetanide, the specific inhibitor of Na<sup>+</sup>-K<sup>+</sup>-2Cl<sup>-</sup> cotransport, inhibits 1alpha,25-dihydroxyvitamin D3-induced osteoclastogenesis in a mouse

co-culture system.

Exp Physiol. 2003 Sep;88(5):569-74.

PMID: 12955156 [PubMed - indexed for MEDLINE]

- ☐ **23:** [Robinson D, Segal M, Nevo Z.](#)

[Related Articles, Links](#)



Giant cell tumor of bone. The role of fibroblast growth factor 3 positive mesenchymal stem cells in its pathogenesis.

Pathobiology. 2002-2003;70(6):333-42.

PMID: 12865629 [PubMed - indexed for MEDLINE]

- ☐ **24:** [Wong T, Majchrzak B, Bogoch E, Keystone EC, Fish EN.](#)

[Related Articles, Links](#)



Therapeutic implications for interferon-alpha in arthritis: a pilot study.

J Rheumatol. 2003 May;30(5):934-40.

PMID: 12734885 [PubMed - indexed for MEDLINE]

- ☐ **25:** [Dovio A, Sartori ML, Masera RG, Ceoloni B, Reimondo G, Prolo P, Racca S, Angeli A.](#)

[Related Articles, Links](#)



Autocrine down-regulation of glucocorticoid receptors by interleukin-11 in human osteoblast-like cell lines.

J Endocrinol. 2003 Apr;177(1):109-17.

PMID: 12697042 [PubMed - indexed for MEDLINE]

- ☐ **26:** [Locklin RM, Khosla S, Turner RT, Riggs BL.](#)

[Related Articles, Links](#)



Mediators of the biphasic responses of bone to intermittent and continuously administered parathyroid hormone.

J Cell Biochem. 2003 May 1;89(1):180-90.

PMID: 12682918 [PubMed - indexed for MEDLINE]

- ☐ **27:** [Okada Y, Montero A, Zhang X, Sobue T, Lorenzo J, Doetschman T, Coffin JD, Hurley MM.](#)

[Related Articles, Links](#)



Impaired osteoclast formation in bone marrow cultures of Fgf2 null mice in response to parathyroid hormone.

J Biol Chem. 2003 Jun 6;278(23):21258-66. Epub 2003 Mar 28.

PMID: 12665515 [PubMed - indexed for MEDLINE]

- ☐ **28:** [Shipman CM, Croucher PJ.](#)

[Related Articles, Links](#)



Osteoprotegerin is a soluble decoy receptor for tumor necrosis factor-related apoptosis-inducing ligand/Apo2 ligand and can function as a paracrine survival factor for human myeloma cells.

Cancer Res. 2003 Mar 1;63(5):912-6.

PMID: 12615702 [PubMed - indexed for MEDLINE]

- ☐ **29:** [Kudo O, Sabokbar A, Pocock A, Itonaga I, Fujikawa Y, Athanasou NA.](#)

[Related Articles, Links](#)



Interleukin-6 and interleukin-11 support human osteoclast formation by a RANKL-independent mechanism.

Bone. 2003 Jan;32(1):1-7.

PMID: 12584029 [PubMed - indexed for MEDLINE]

- ☐ **30:** [Oyajobi BO, Mundy GR.](#)









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Receptor activator of NF-kappaB ligand, macrophage inflammatory protein-1alpha, and the proteasome: novel therapeutic targets in myeloma.

Cancer. 2003 Feb 1;97(3 Suppl):813-7.

PMID: 12548580 [PubMed - indexed for MEDLINE]

- ☐ **31:** [Sordillo EM, Pearse RN.](#) Related Articles, Links  
 RANK-Fc: a therapeutic antagonist for RANK-L in myeloma.  
Cancer. 2003 Feb 1;97(3 Suppl):802-12. Review.  
PMID: 12548579 [PubMed - indexed for MEDLINE]
- ☐ **32:** [Kato I, Sato H, Kudo A.](#) Related Articles, Links  
 TRANCE together with IL-7 induces pre-B cells to proliferate.  
Eur J Immunol. 2003 Feb;33(2):334-41.  
PMID: 12548564 [PubMed - indexed for MEDLINE]
- ☐ **33:** [Holliday LS, Welgus HG, Hanna J, Lee BS, Lu M, Jeffrey JJ, Gluck SL.](#) Related Articles, Links  
 Interstitial collagenase activity stimulates the formation of actin rings and ruffled membranes in mouse marrow osteoclasts.  
Calcif Tissue Int. 2003 Mar;72(3):206-14. Epub 2003 Jan 15.  
PMID: 12522662 [PubMed - indexed for MEDLINE]
- ☐ **34:** [Berenson JR.](#) Related Articles, Links  
 Advances in the biology and treatment of myeloma bone disease.  
Semin Oncol. 2002 Dec;29(6 Suppl 17):11-6. Review.  
PMID: 12520479 [PubMed - indexed for MEDLINE]
- ☐ **35:** [Elhasid R, Hofbauer LC, Ish-Shalom S, Ben-Arush M, Koc O, Rowe JM, Etzioni A.](#) Related Articles, Links  
 Familial severe congenital neutropenia associated with infantile osteoporosis: a new entity.  
Am J Hematol. 2003 Jan;72(1):34-7.  
PMID: 12508266 [PubMed - indexed for MEDLINE]
- ☐ **36:** [Hasegawa T, Yoshimura Y, Kikuri T, Yawaka Y, Takeyama S, Matsumoto A, Oguchi H, Shirakawa T.](#) Related Articles, Links  
 Expression of receptor activator of NF-kappa B ligand and osteoprotegerin in culture of human periodontal ligament cells.  
J Periodontal Res. 2002 Dec;37(6):405-11.  
PMID: 12472833 [PubMed - indexed for MEDLINE]
- ☐ **37:** [Okada Y, Morimoto I, Ura K, Watanabe K, Eto S, Kumegawa M, Raisz L, Pilbeam C, Tanaka Y.](#) Related Articles, Links  
 Cell-to-Cell adhesion via intercellular adhesion molecule-1 and leukocyte function-associated antigen-1 pathway is involved in 1alpha,25(OH)2D3, PTH and IL-1alpha-induced osteoclast differentiation and bone resorption.  
Endocr J. 2002 Aug;49(4):483-95.  
PMID: 12402981 [PubMed - indexed for MEDLINE]
- ☐ **38:** [Giuliani N, Colla S, Sala R, Moroni M, Lazzaretti M, La Monica S, Bonomini S, Hojden M, Sammarelli G, Barille S, Bataille R, Rizzoli V.](#) Related Articles, Links  
 Human myeloma cells stimulate the receptor activator of nuclear factor-kappa B ligand (RANKL) in T lymphocytes: a potential role in multiple myeloma bone disease.  
Blood. 2002 Dec 15;100(13):4615-21. Epub 2002 Aug 8.  
PMID: 12393684 [PubMed - indexed for MEDLINE]
- ☐ **39:** [Palmqvist P, Persson E, Conaway HH, Lerner UH.](#) Related Articles, Links

-  IL-6, leukemia inhibitory factor, and oncostatin M stimulate bone resorption and regulate the expression of receptor activator of NF-kappa B ligand, osteoprotegerin, and receptor activator of NF-kappa B in mouse calvariae.  
J Immunol. 2002 Sep 15;169(6):3353-62.  
PMID: 12218157 [PubMed - indexed for MEDLINE]
- ☐ 40: [Roux S, Meignin V, Quillard J, Meduri G, Guiochon-Mantel A, Femand JP, Milgrom E, Mariette X.](#) Related Articles, Links
-  RANK (receptor activator of nuclear factor-kappaB) and RANKL expression in multiple myeloma.  
Br J Haematol. 2002 Apr;117(1):86-92.  
PMID: 11918537 [PubMed - indexed for MEDLINE]
- ☐ 41: [Roux S, Amazit L, Meduri G, Guiochon-Mantel A, Milgrom E, Mariette X.](#) Related Articles, Links
-  RANK (receptor activator of nuclear factor kappa B) and RANK ligand are expressed in giant cell tumors of bone.  
Am J Clin Pathol. 2002 Feb;117(2):210-6.  
PMID: 11863217 [PubMed - indexed for MEDLINE]
- ☐ 42: [Kubota K, Sakikawa C, Katsumata M, Nakamura T, Wakabayashi K.](#) Related Articles, Links
-  Platelet-derived growth factor BB secreted from osteoclasts acts as an osteoblastogenesis inhibitory factor.  
J Bone Miner Res. 2002 Feb;17(2):257-65.  
PMID: 11811556 [PubMed - indexed for MEDLINE]
- ☐ 43: [Choi Y, Woo KM, Ko SH, Lee YJ, Park SJ, Kim HM, Kwon BS.](#) Related Articles, Links
-  Osteoclastogenesis is enhanced by activated B cells but suppressed by activated CD8(+) T cells.  
Eur J Immunol. 2001 Jul;31(7):2179-88.  
PMID: 11449372 [PubMed - indexed for MEDLINE]
- ☐ 44: [Kukita T, Kukita A, Watanabe T, Iijima T.](#) Related Articles, Links
-  Osteoclast differentiation antigen, distinct from receptor activator of nuclear factor kappa B, is involved in osteoclastogenesis under calcitonin-regulated conditions.  
J Endocrinol. 2001 Jul;170(1):175-83.  
PMID: 11431150 [PubMed - indexed for MEDLINE]
- ☐ 45: [Kotake S, Udagawa N, Hakoda M, Mogi M, Yano K, Tsuda E, Takahashi K, Furuya T, Ishiyama S, Kim KJ, Saito S, Nishikawa T, Takahashi N, Togari A, Tomatsu T, Suda T, Kamatani N.](#) Related Articles, Links
-  Activated human T cells directly induce osteoclastogenesis from human monocytes: possible role of T cells in bone destruction in rheumatoid arthritis patients.  
Arthritis Rheum. 2001 May;44(5):1003-12.  
PMID: 11352231 [PubMed - indexed for MEDLINE]
- ☐ 46: [Atkins GJ, Bouralexis S, Haynes DR, Graves SE, Geary SM, Evdokiou A, Zannettino AC, Hay S, Findlay DM.](#) Related Articles, Links
-  Osteoprotegerin inhibits osteoclast formation and bone resorbing activity in giant cell tumors of bone.  
Bone. 2001 Apr;28(4):370-7.  
PMID: 11336917 [PubMed - indexed for MEDLINE]

- ☐ **47:** [Mori K, Miyamoto N, Higuchi Y, Nanba K, Ito M, Tsurudome M, Nishio M, Kawano M, Uchida A, Ito Y.](#) [Related Articles, Links](#)  
 Cross-talk between RANKL and FRP-1/CD98 Systems: RANKL-mediated osteoclastogenesis is suppressed by an inhibitory anti-CD98 heavy chain mAb and CD98-mediated osteoclastogenesis is suppressed by osteoclastogenesis inhibitory factor.  
Cell Immunol. 2001 Feb 1;207(2):118-26.  
PMID: 11243701 [PubMed - indexed for MEDLINE]
- ☐ **48:** [O'Brien EA, Williams JH, Marshall MJ.](#) [Related Articles, Links](#)  
 Osteoprotegerin is produced when prostaglandin synthesis is inhibited causing osteoclasts to detach from the surface of mouse parietal bone and attach to the endocranial membrane.  
Bone. 2001 Feb;28(2):208-14.  
PMID: 11182380 [PubMed - indexed for MEDLINE]
- ☐ **49:** [Shalhoub V, Elliott G, Chiu L, Manoukian R, Kelley M, Hawkins N, Davy E, Shimamoto G, Beck J, Kaufman SA, Van G, Scully S, Qi M, Grisanti M, Dunstan C, Boyle WJ, Lacey DL.](#) [Related Articles, Links](#)  
 Characterization of osteoclast precursors in human blood.  
Br J Haematol. 2000 Nov;111(2):501-12.  
PMID: 11122091 [PubMed - indexed for MEDLINE]
- ☐ **50:** [Miyamoto T, Arai F, Ohneda O, Takagi K, Anderson DM, Suda T.](#) [Related Articles, Links](#)  
 An adherent condition is required for formation of multinuclear osteoclasts in the presence of macrophage colony-stimulating factor and receptor activator of nuclear factor kappa B ligand.  
Blood. 2000 Dec 15;96(13):4335-43.  
PMID: 11110710 [PubMed - indexed for MEDLINE]
- ☐ **51:** [Kinpara K, Mogi M, Kuzushima M, Togari A.](#) [Related Articles, Links](#)  
 Osteoclast differentiation factor in human osteosarcoma cell line.  
J Immunoassay. 2000 Nov;21(4):327-40.  
PMID: 11071251 [PubMed - indexed for MEDLINE]
- ☐ **52:** [Fox SW, Fuller K, Bayley KE, Lean JM, Chambers TJ.](#) [Related Articles, Links](#)  
 TGF-beta 1 and IFN-gamma direct macrophage activation by TNF-alpha to osteoclastic or cytotoxic phenotype.  
J Immunol. 2000 Nov 1;165(9):4957-63.  
PMID: 11046022 [PubMed - indexed for MEDLINE]
- ☐ **53:** [Grcevic D, Lee SK, Marusic A, Lorenzo JA.](#) [Related Articles, Links](#)  
 Depletion of CD4 and CD8 T lymphocytes in mice in vivo enhances 1,25-dihydroxyvitamin D3-stimulated osteoclast-like cell formation in vitro by a mechanism that is dependent on prostaglandin synthesis.  
J Immunol. 2000 Oct 15;165(8):4231-8.  
PMID: 11035056 [PubMed - indexed for MEDLINE]
- ☐ **54:** [Borset M, Hjertner O, Yaccoby S, Epstein J, Sanderson RD.](#) [Related Articles, Links](#)  
 Syndecan-1 is targeted to the uropods of polarized myeloma cells where it promotes adhesion and sequesters heparin-binding proteins.  
Blood. 2000 Oct 1;96(7):2528-36.  
PMID: 11001907 [PubMed - indexed for MEDLINE]



☐ **55:** [Rani CS, MacDougall M.](#)

[Related Articles, Links](#)



Dental cells express factors that regulate bone resorption.

Mol Cell Biol Res Commun. 2000 Mar;3(3):145-52.

PMID: 10860862 [PubMed - indexed for MEDLINE]

☐ **56:** [Takayanagi H, Iizuka H, Juji T, Nakagawa T, Yamamoto A, Miyazaki T, Koshihara Y, Oda H, Nakamura K, Tanaka S.](#)

[Related Articles, Links](#)



Involvement of receptor activator of nuclear factor kappaB ligand/osteoclast differentiation factor in osteoclastogenesis from synoviocytes in rheumatoid arthritis.

Arthritis Rheum. 2000 Feb;43(2):259-69.

PMID: 10693864 [PubMed - indexed for MEDLINE]

☐ **57:** [Nakagawa N, Yasuda H, Yano K, Mochizuki S, Kobayashi N, Fujimoto H, Yamaguchi K, Shima N, Morinaga T, Higashio K.](#)

[Related Articles, Links](#)



Basic fibroblast growth factor inhibits osteoclast formation induced by 1alpha,25-dihydroxyvitamin D(3) through suppressing the production of osteoclast differentiation factor.

Biochem Biophys Res Commun. 1999 Nov;265(1):45-50.

PMID: 10548488 [PubMed - indexed for MEDLINE]

☐ **58:** [Yasuda H, Shima N, Nakagawa N, Yamaguchi K, Kinoshita M, Goto M, Mochizuki SI, Tsuda E, Morinaga T, Udagawa N, Takahashi N, Suda T, Higashio K.](#)

[Related Articles, Links](#)



A novel molecular mechanism modulating osteoclast differentiation and function.

Bone. 1999 Jul;25(1):109-13.

PMID: 10423033 [PubMed - indexed for MEDLINE]

☐ **59:** [Hsu H, Lacey DL, Dunstan CR, Solovyev I, Colombero A, Timms E, Tan HL, Elliott G, Kelley MJ, Sarosi I, Wang L, Xia XZ, Elliott R, Chiu L, Black T, Scully S, Capparelli C, Morony S, Shimamoto G, Bass MB, Boyle WJ.](#)

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Tumor necrosis factor receptor family member RANK mediates osteoclast differentiation and activation induced by osteoprotegerin ligand.

Proc Natl Acad Sci U S A. 1999 Mar 30;96(7):3540-5.

PMID: 10097072 [PubMed - indexed for MEDLINE]

☐ **60:** [Nakagawa N, Kinoshita M, Yamaguchi K, Shima N, Yasuda H, Yano K, Morinaga T, Higashio K.](#)

[Related Articles, Links](#)



RANK is the essential signaling receptor for osteoclast differentiation factor in osteoclastogenesis.

Biochem Biophys Res Commun. 1998 Dec 18;253(2):395-400.

PMID: 9878548 [PubMed - indexed for MEDLINE]

☐ **61:** [Tsukii K, Shima N, Mochizuki S, Yamaguchi K, Kinoshita M, Yano K, Shibata O, Udagawa N, Yasuda H, Suda T, Higashio K.](#)

[Related Articles, Links](#)



Osteoclast differentiation factor mediates an essential signal for bone resorption induced by 1 alpha,25-dihydroxyvitamin D3, prostaglandin E2, or parathyroid hormone in the microenvironment of bone.

Biochem Biophys Res Commun. 1998 May 19;246(2):337-41.

PMID: 9610359 [PubMed - indexed for MEDLINE]

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AN 10764698 IFIPAT;IFIUDB;IFICDB  
TI \*\*\*OSTEOPROTEGERIN\*\*\* \*\*\*BINDING\*\*\* \*\*\*PROTEINS\*\*\* AND  
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IN Boyle William J  
PA Amgen Inc (12117)  
PI US 2005003400 A1 20050106  
AI US 2004-825898 20040415  
RLI US 1998-52521 19980330 CONTINUATION 6316408  
US 2000-721212 20001121 CONTINUATION ABANDONED  
US 1997-842842 19970416 CONTINUATION-IN-PART 5843678  
US 1997-880855 19970623 CONTINUATION-IN-PART ABANDONED  
FI US 2005003400 20050106  
US 6316408  
US 5843678  
DT Utility; Patent Application - First Publication  
FS CHEMICAL  
APPLICATION  
CLMN 15

L2 ANSWER 2 OF 128 USPATFULL on STN  
AN 2005:81108 USPATFULL  
TI Targeted ligands  
IN Herman, William, Thornhill, CANADA  
PI US 2005069549 A1 20050331  
AI US 2004-501453 A1 20041122 (10)  
WO 2003-CA44 20030114  
PRAI CA 2002-2368708 20020114  
WO 2002-CA317 20020311  
CA 2002-2397169 20020813  
CA 2002-2402930 20020919  
DT Utility  
FS APPLICATION  
LN.CNT 9273  
INCL INCLM: 424/178.100  
NCL NCLM: 424/178.100

IC [7]  
ICM: A61K039-395  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 3 OF 128 USPATFULL on STN  
AN 2004:203879 USPATFULL  
TI Rank-ligand-induced sodium/proton antiporter polypeptides  
IN Bird, Timothy A., Bainbridge, WA, UNITED STATES  
Tometsko, Mark E., Seattle, WA, UNITED STATES  
Dougall, William C., Seattle, WA, UNITED STATES  
Mosley, Bruce A., Seattle, WA, UNITED STATES  
PI US 2004157771 A1 20040812  
AI US 2003-372613 A1 20030221 (10)  
PRAI US 2002-361891P 20020228 (60)  
DT Utility  
FS APPLICATION  
LN.CNT 5274  
INCL INCLM: 514/012.000  
INCLS: 530/350.000; 435/069.100; 435/320.100; 435/325.000; 536/023.500  
NCL NCLM: 514/012.000  
NCLS: 530/350.000; 435/069.100; 435/320.100; 435/325.000; 536/023.500  
IC [7]  
ICM: A61K038-17  
ICS: C07K014-705; C07H021-04  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 4 OF 128 CIN COPYRIGHT 2005 ACS on STN  
AN 33(4):1819S CIN  
TI Patent applications  
SO Biotechnol. News, 8 Jan 2004 (20040108), 24(1), p. 11. ISSN: 0273-3226;  
CODEN: BINWEY.  
LA English

L2 ANSWER 5 OF 128 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 2  
AN 2003:435069 CAPLUS  
DN 139:35078  
TI Selective binding agents of \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\* (OPGbp), such as antagonist antibodies, for use in the  
treatment of bone disorders  
IN Deshpande, Rajendra V.; Hitz, Anna; Boyle, William James; Sullivan, John  
K.  
PA Amgen Inc., USA  
SO U.S. Pat. Appl. Publ., 123 pp., Cont.-in-part of U.S. Ser. No. 511,139,  
abandoned.  
CODEN: USXXCO  
DT Patent  
LA English  
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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	CA 2400929	AA	20010830	CA 2001-2400929	20010223
	WO 2001062932	A1	20010830	WO 2001-US5973	20010223
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	EP 1257648	A1	20021120	EP 2001-911158	20010223
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
	JP 2003523772	T2	20030812	JP 2001-562706	20010223
PRAI	US 2000-511139	B2	20000223		
	US 2001-791153	A	20010222		
	WO 2001-US5973	W	20010223		

L2 ANSWER 6 OF 128 IFIPAT COPYRIGHT 2005 IFI on STN DUPLICATE 3  
AN 10360068 IFIPAT;IFIUDB;IFICDB

TI ANTIBODIES SPECIFIC FOR \*\*\*OSTEOPROTEGERIN\*\*\* \*\*\*BINDING\*\*\*  
\*\*\*PROTEINS\*\*\* AND METHOD OF USE; NUCLEOTIDE SEQUENCES CODING  
POLYPEPTIDE FOR USE IN TREATMENT OF BONE DISORDERS

IN BOYLE WILLIAM J

PA Unassigned Or Assigned To Individual (68000)

PI US 2003104485 A1 20030605

AI US 1998-79569 19980514

RLI US 1997-842842 19970416 DIVISION 5843678

FI US 2003104485 20030605

US 5843678

DT Utility; Patent Application - First Publication

FS CHEMICAL

APPLICATION

CLMN 33

GI 3 Figure(s).

FIG. 1. Structure and sequence of the 32D-F3 insert encoding OPG binding protein. Predicted transmembrane domain and sites for asparagine-linked carbohydrate chains are underlined.

FIG. 2. OPG binding protein expression in COS-7 cells transfected with pcdNA/32I)-F3. Cells were lipofected with pcdNA/32D-F3 DNA, the assayed for binding to either goat antihuman IgG1 alkaline phosphatase conjugate (secondary alone), human OPG(22-201)-Fc plus secondary (OPG-Fc), or a chimeric ATAR extracellular domain-Fc fusion protein (sATAR-Fc). ATAR is a new member of the TNFR superfamily, and the sATAR-Fc fusion protein serves as a control for both human IgG1 Fc domain binding, and generic TNFR related protein, binding to 32D cell surface molecules.

FIG. 3. Expression of OPG binding protein in human tissues. Northern blot analysis of human tissue mRNA (Clontech) using a radiolabeled 32D-F3 derived hybridization probe. Relative molecular mass is indicated at the left in kilobase pairs (kb). Arrowhead on right side indicates the migration of an approximately 2.5 kb transcript detected in lymph node mRNA. A very faint band of the same mass is also detected in fetal liver.

L2 ANSWER 7 OF 128 IFIPAT COPYRIGHT 2005 IFI on STN DUPLICATE 4

AN 10356071 IFIPAT;IFIUDB;IFICDB

TI \*\*\*OSTEOPROTEGERIN\*\*\* \*\*\*BINDING\*\*\* \*\*\*PROTEINS\*\*\* ; FOR  
THERAPY OF BONE DISEASES, SUCH AS OSTEOPOROSIS, BONE LOSS FROM ARTHRITIS,  
PAGET'S DISEASE, AND HYPERCALCEMIA

IN BOYLE WILLIAM J

PA Unassigned Or Assigned To Individual (68000)

PI US 2003100488 A1 20030529

AI US 1998-211297 19981214

RLI US 1997-880855 19970623 CONTINUATION

US 1997-842842 19970416 CONTINUATION-IN-PART 5843678

FI US 2003100488 20030529

US 5843678

DT Utility; Patent Application - First Publication

FS CHEMICAL

APPLICATION

CLMN 36

GI 9 Figure(s).

FIG. 1. Structure and sequence of the 32D-F3 insert encoding OPG binding protein. Predicted transmembrane domain and sites for asparagine-linked carbohydrate chains are underlined.

FIG. 2. OPG binding protein expression in COS-7 cells transfected with pcdNA/32D-F3. Cells were lipofected with pcdNA/ 32D-F3 DNA, the assayed for binding to either goat anti-human IgG1 alkaline phosphatase conjugate (secondary alone), human OPG(22-201)-Fc plus secondary (OPG-Fc), or a chimeric ATAR extracellular domain-Fc fusion protein (sATAR-Fc). ATAR is a new member of the TNFR superfamily, and the sATAR-Fc fusion protein serves as a control for both human IgG1 Fc domain binding, and generic TNFR related protein, binding to 32D cell surface molecules.

FIG. 3. Expression of OPG binding protein in human tissues. Northern blot analysis of human tissue mRNA (Clontech) using a radiolabeled 32D-F3 derived hybridization probe. Relative molecular mass is indicated at the left in kilobase pairs (kb). Arrowhead on right side indicates the migration of an approximately 2.5 kb transcript detected in lymph node mRNA. A very faint band of the same mass is also detected in fetal liver.

FIG. 4. Structure and sequence of the pcdNA/hu OPGbp 1.1 insert encoding the human OPG binding protein. The predicted transmembrane domain and site for asparagine-linked carbohydrate chains are underlined.

FIG. 5. Stimulation of osteoclast development in vitro from bone marrow



macrophage and ST2 cell cocultures treated with recombinant murine OPG binding protein (158-316). Cultures were treated with varying concentrations of murine OPG binding protein ranging from 1.6 to 500 ng/ml. After 8-10 days, cultures were lysed, and TRAP activity was measured by solution assay. In addition, some cultures were simultaneously treated with 1, 10, 100, 500, and 1000 ng/ml of recombinant murine OPG (22-401)-Fc protein. Murine OPG binding protein induces a dosedependent stimulation in osteoclast formation, whereas OPG (22401)-Fc inhibits osteoclast formation.

FIG. 6. Stimulation of osteoclast development from bone marrow precursors in vitro in the presence of M-CSF and murine OPG binding protein (158-316). Mouse bone marrow was harvested, and cultured in the presence 250, 500, 1000, and 2000 U/ml of M-CSF. Varying concentrations of OPG binding protein (158-316), ranging from 1.6 to 500 ng/ml, were added to these same cultures. Osteoclast development was measured by TRAP solution assay.

FIG. 7. Osteoclasts derived from bone marrow cells in the presence of both M-CSF and OPG binding protein (158-316) resorb bone in vitro. Bone marrow cells treated with either M-CSF, OPG binding protein, or with both factors combined, were plated onto bone slices in culture wells, and were allowed to develop into mature osteoclasts. The resulting cultures were then stained with Toluidine Blue (left column), or histochemically to detect TRAP enzyme activity (right column). In cultures receiving both factors, mature osteoclasts were formed that were capable of eroding bone as judged by the presence of blue stained pits on the bone surface. This correlated with the presence of multiple large, multinucleated, TRAP positive cells.

FIG. 8. Graph showing the whole blood ionized calcium (iCa) levels from mice injected with OPG binding protein, 51 hours after the first injection, and in mice also receiving concurrent OPG administration. OPG binding protein significantly and dose dependently increased iCa levels. OPG (1 mg/kg/day) completely blocked the increase in iCa at a dose of OPG binding protein of 5 ug/day, and partially blocked the increase at a dose of OPG binding protein of 25 ug/day. (\*), different to vehicle treated control (p less-than 0.05). (#), OPG treated iCa level significantly different to level in mice receiving that dose of OPG binding protein alone (p less-than 0.05).

FIG. 9. Radiographs of the left femur and tibia in mice treated with 0, 5, 25 or 100 ug/day of OPG binding protein for 3.5 days. There is a dose dependent decrease in bone density evident most clearly in the proximal tibial metaphysis of these mice, and that is profound at a dose of 100 ug/day.

L2 ANSWER 8 OF 128 USPATFULL on STN  
AN 2003:277129 USPATFULL  
TI Peptides and related molecules that bind to TALL-1  
IN Min, Hosung, Newbury Park, CA, UNITED STATES  
Hsu, Hailing, Moorpark, CA, UNITED STATES  
Xiong, Fei, Thousand Oaks, CA, UNITED STATES  
PA Amgen Inc. (U.S. corporation)  
PI US 2003195156 A1 20031016  
AI US 2002-145206 A1 20020513 (10)  
PRAI US 2001-290196P 20010511 (60)  
DT Utility  
FS APPLICATION  
LN.CNT 2728  
INCL INCLM: 514/014.000  
INCLS: 514/015.000  
NCL NCLM: 514/014.000  
NCLS: 514/015.000  
IC [7]  
ICM: A61K038-10  
ICS: A61K038-08  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 9 OF 128 USPATFULL on STN  
AN 2003:146245 USPATFULL  
TI TALL-1 receptor molecules and uses thereof  
IN Hsu, Hailing, Moorpark, CA, UNITED STATES  
PA Amgen Inc. A Corporation of the State of Delaware (U.S. corporation)  
PI US 2003099990 A1 20030529  
AI US 2002-251947 A1 20020920 (10)

PRAI US 2001-324238P 20010921 (60)  
DT Utility  
FS APPLICATION  
LN.CNT 4507  
INCL INCLM: 435/006.000  
INCLS: 435/007.200; 435/069.100; 435/320.100; 435/325.000; 530/350.000;  
536/023.500  
NCL NCLM: 435/006.000  
NCLS: 435/007.200; 435/069.100; 435/320.100; 435/325.000; 530/350.000;  
536/023.500  
IC [7]  
ICM: C12Q001-68  
ICS: G01N033-53; G01N033-567; C07H021-04; C12P021-02; C12N005-06;  
C07K014-705  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 10 OF 128 USPATFULL on STN  
AN 2003:57548 USPATFULL  
TI Composition and methods for the production of biological tissues and  
tissue constructs  
IN Mizuno, Shuichi, Brookline, MA, UNITED STATES  
Tokuno, Toshimasa, Tokyo, JAPAN  
Berlowitz Tarrant, Laurence J., Easthampton, MA, UNITED STATES  
PA Histogenics Corporation, Easthampton, MA (U.S. corporation)  
PI US 2003040113 A1 20030227  
AI US 2002-104677 A1 20020322 (10)  
PRAI US 2001-278534P 20010323 (60)  
US 2002-352085P 20020124 (60)  
DT Utility  
FS APPLICATION  
LN.CNT 1569  
INCL INCLM: 435/395.000  
NCL NCLM: 435/395.000  
IC [7]  
ICM: C12N005-02  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 11 OF 128 USPATFULL on STN  
AN 2003:29843 USPATFULL  
TI Use of rank antagonists to treat cancer  
IN Dougall, William C., Seattle, WA, UNITED STATES  
PI US 2003021785 A1 20030130  
AI US 2002-166232 A1 20020605 (10)  
PRAI US 2001-296670P 20010606 (60)  
DT Utility  
FS APPLICATION  
LN.CNT 1870  
INCL INCLM: 424/146.100  
INCLS: 514/012.000; 514/044.000  
NCL NCLM: 424/146.100  
NCLS: 514/012.000; 514/044.000  
IC [7]  
ICM: A61K048-00  
ICS: A61K038-17; A61K039-395  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 12 OF 128 USPATFULL on STN  
AN 2003:23315 USPATFULL  
TI Therapeutic use of rank antagonists  
IN Dougall, William C., Seattle, WA, UNITED STATES  
Anderson, Dirk M., Seattle, WA, UNITED STATES  
PI US 2003017151 A1 20030123  
AI US 2002-151071 A1 20020517 (10)  
PRAI US 2001-291919P 20010517 (60)  
DT Utility  
FS APPLICATION  
LN.CNT 2176  
INCL INCLM: 424/143.100  
INCLS: 514/044.000  
NCL NCLM: 424/143.100  
NCLS: 514/044.000  
IC [7]

ICM: A61K048-00  
ICS: A61K039-395

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 13 OF 128 USPATFULL on STN  
AN 2003:17899 USPATFULL  
TI Stimulation of osteogenesis using rank ligand fusion proteins  
IN Lam, Jonathan, West Memphis, AR, UNITED STATES  
Ross, F. Patrick, Olivette, MO, UNITED STATES  
Teitelbaum, Steven L., University City, MO, UNITED STATES  
PA Barnes-Jewish Hospital (2)  
PI US 2003013651 A1 20030116  
AI US 2002-105057 A1 20020322 (10)  
PRAI US 2001-277855P 20010322 (60)  
US 2001-311163P 20010809 (60)  
US 2001-329231P 20011012 (60)  
US 2001-328876P 20011012 (60)  
US 2001-329393P 20011015 (60)  
DT Utility  
FS APPLICATION  
LN.CNT 1942  
INCL INCLM: 514/012.000  
NCL NCLM: 514/012.000  
IC [7]  
ICM: A61K038-17

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 14 OF 128 USPATFULL on STN DUPLICATE 5  
AN 2002:164694 USPATFULL  
TI Screening assays for agonists and antagonists of receptor activator of  
NF-kappa B  
IN Dougall, William C., Seattle, WA, UNITED STATES  
PI US 2002086312 A1 20020704  
US 6884598 B2 20050426  
AI US 2001-957944 A1 20010920 (9)  
PRAI US 2000-235157P 20000922 (60)  
DT Utility  
FS APPLICATION  
LN.CNT 3029  
INCL INCLM: 435/006.000  
INCLS: 435/007.210  
NCL NCLM: 435/008.000  
NCLS: 435/007.100; 435/007.200; 530/350.000; 536/023.500  
IC [7]  
ICM: C12Q001-68  
ICS: G01N033-567

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 15 OF 128 USPATFULL on STN DUPLICATE 6  
AN 2002:156701 USPATFULL  
TI Methods and compositions of matter concerning APRIL/G70, BCMA,  
BLYS/AGP-3 and TACI  
IN Theill, Lars Eyde, Thousand Oaks, CA, UNITED STATES  
Yu, Gang, Thousand Oaks, CA, UNITED STATES  
PI US 2002081296 A1 20020627  
US 6774106 B2 20040810  
AI US 2001-854864 A1 20010514 (9)  
PRAI US 2000-204039P 20000512 (60)  
US 2000-214591P 20000627 (60)  
DT Utility  
FS APPLICATION  
LN.CNT 2383  
INCL INCLM: 424/144.100  
INCLS: 424/155.100  
NCL NCLM: 514/012.000  
NCLS: 424/185.100; 424/192.100  
IC [7]  
ICM: A61K039-395

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 16 OF 128 USPATFULL on STN  
AN 2002:287553 USPATFULL

TI Receptor from TNF family  
IN Boyle, William J., Moorpark, CA, UNITED STATES  
Hsu, Hailing, Moorpark, CA, UNITED STATES  
PI US 2002160416 A1 20021031  
AI US 2001-779050 A1 20010212 (9)  
PRAI US 2000-181800P 20000211 (60)  
DT Utility  
FS APPLICATION  
LN.CNT 2856  
INCL INCLM: 435/007.100  
INCLS: 530/389.100; 530/395.000; 536/053.000  
NCL NCLM: 435/007.100  
NCLS: 530/389.100; 530/395.000; 536/053.000  
IC [7]  
ICM: G01N033-53  
ICS: C07K016-46; C08B037-00  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 17 OF 128 USPATFULL on STN  
AN 2002:272856 USPATFULL  
TI TNF receptor-like molecules and uses thereof  
IN Theill, Lars Eyde, Thousand Oaks, CA, UNITED STATES  
Yeh, Richard, Ithaca, NY, UNITED STATES  
Silbiger, Scott Michael, Woodland Hills, CA, UNITED STATES  
Yu, Gang, Thousand Oaks, CA, UNITED STATES  
Senaldi, Giorgio, Thousand Oaks, CA, UNITED STATES  
PI US 2002150977 A1 20021017  
AI US 2001-948018 A1 20010905 (9)  
PRAI US 2000-230191P 20000905 (60)  
DT Utility  
FS APPLICATION  
LN.CNT 5781  
INCL INCLM: 435/069.100  
INCLS: 435/325.000; 435/320.100; 530/350.000; 536/023.500; 435/194.000  
NCL NCLM: 435/069.100  
NCLS: 435/325.000; 435/320.100; 530/350.000; 536/023.500; 435/194.000  
IC [7]  
ICM: C12P021-02  
ICS: C12N005-06; C07H021-04; C12N009-12  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 18 OF 128 USPATFULL on STN  
AN 2002:164405 USPATFULL  
TI Methods and compositions of matter concerning APRIL/G70, BCMA,  
BLYS/AGP-3, and TACI  
IN Theill, Lars Eyde, Thousand Oaks, CA, UNITED STATES  
Yu, Gang, Thousand Oaks, CA, UNITED STATES  
PI US 2002086018 A1 20020704  
AI US 2001-855158 A1 20010514 (9)  
PRAI US 2000-204039P 20000512 (60)  
US 2000-214591P 20000627 (60)  
DT Utility  
FS APPLICATION  
LN.CNT 1973  
INCL INCLM: 424/146.100  
INCLS: 424/153.100  
NCL NCLM: 424/146.100  
NCLS: 424/153.100  
IC [7]  
ICM: A61K039-395  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 19 OF 128 BIOTECHNO COPYRIGHT 2005 Elsevier Science B.V. on STN  
DUPLICATE  
AN 2002:34223904 BIOTECHNO  
TI Antagonistic selective binding agents of \*\*\*osteoprotegerin\*\*\*  
\*\*\*binding\*\*\* \*\*\*protein\*\*\*  
SO Expert Opinion on Therapeutic Patents, (2002), 12/3 (469-470), 5  
reference(s)  
CODEN: EOTPEG ISSN: 1354-3776  
DT Journal; Article  
CY United Kingdom

LA English  
SL English

L2 ANSWER 20 OF 128 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on  
STN DUPLICATE 8  
AN 2002:225630 BIOSIS  
DN PREV200200225630  
TI Methods of use for osetoprotegerin binding protein receptors.  
AU Boyle, William J. [Inventor]  
CS ASSIGNEE: Amgen Inc.  
PI US 6316408 November 13, 2001  
SO Official Gazette of the United States Patent and Trademark Office Patents,  
(Nov. 13, 2001) Vol. 1252, No. 2. [http://www.uspto.gov/web/menu/patdata.ht](http://www.uspto.gov/web/menu/patdata.html)  
ml. e-file.  
CODEN: OGUPE7. ISSN: 0098-1133.  
DT Patent  
LA English  
ED Entered STN: 3 Apr 2002  
Last Updated on STN: 3 Apr 2002

L2 ANSWER 21 OF 128 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN  
DUPLICATE 9  
AN 2002-00826 BIOTECHDS  
TI Antibodies that bind antagonistically to osteoprotein binding, useful for  
treating osteoporosis, metastasis of cancer to bone, rheumatoid arthritis,  
hypercalcemia of malignancy and steroid osteoporosis;  
monoclonal antibody and humanized antibody, vector expression in CHO  
cell  
AU Deshpande R V; Hitz A; Boyle W J; Sullivan J K  
PA Amgen  
LO Thousand Oaks, CA, USA.  
PI WO 2001062932 30 Aug 2001  
AI WO 2001-US5973 23 Feb 2001  
PRAI US 2001-791153 22 Mar 2001; US 2000-511139 23 Feb 2000  
DT Patent  
LA English  
OS WPI: 2001-557706 [62]

L2 ANSWER 22 OF 128 USPATFULL on STN  
AN 2001:14213 USPATFULL  
TI Method for diagnosing and treating chronic pelvic pain syndrome  
IN Alexander, Richard B., Ellicott City, MD, United States  
Ponniah, Sathibalan, Ellicott City, MD, United States  
PA University of Maryland, Baltimore, Baltimore, MD, United States (U.S.  
corporation)  
PI US 6180355 B1 20010130  
AI US 1999-306927 19990507 (9)  
PRAI US 1998-84668P 19980507 (60)  
DT Utility  
FS Granted  
LN.CNT 3501  
INCL INCLM: 435/007.100  
INCLS: 435/007.800  
NCL NCLM: 435/007.100  
NCLS: 435/007.800  
IC [7]  
ICM: G01N033-50  
ICS: G01N033-53  
EXF 435/7.1; 435/7.8; 435/7.92; 435/7.94; 424/1.41; 424/145.1; 424/158.1;  
436/501; 436/86; 436/87  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 23 OF 128 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on  
STN DUPLICATE 10  
AN 1999:71302 BIOSIS  
DN PREV199900071302  
TI \*\*\*Osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*proteins\*\*\*  
AU Boyle, W. J. [Inventor]  
CS Moorpark, Calif., USA  
ASSIGNEE: AMGEN INC.  
PI US 5843678 Dec. 1, 1998  
SO Official Gazette of the United States Patent and Trademark Office Patents,

DT Patent  
LA English  
ED Entered STN: 1 Mar 1999  
Last Updated on STN: 1 Mar 1999

L2 ANSWER 24 OF 128 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1998:712352 CAPLUS  
DN 129:328897  
TI A protein binding osteoprotegerin playing a role in osteoclast maturation  
for use in the treatment of bone loss  
IN Boyle, William J.  
PA Amgen Inc., USA  
SO PCT Int. Appl., 108 pp.  
CODEN: PIXXD2

DT Patent  
LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9846751	A1	19981022	WO 1998-US7584	19980415
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	US 5843678	A	19981201	US 1997-842842	19970416
	US 6316408	B1	20011113	US 1998-52521	19980330
	CA 2285746	AA	19981022	CA 1998-2285746	19980415
	AU 9871205	A1	19981111	AU 1998-71205	19980415
	AU 743257	B2	20020124		
	EP 975754	A1	20000202	EP 1998-918244	19980415
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	BR 9808545	A	20000523	BR 1998-8545	19980415
	EE 9900611	A	20000815	EE 1999-611	19980415
	JP 2001526532	T2	20011218	JP 1998-544257	19980415
	NZ 500253	A	20020927	NZ 1998-500253	19980415
	ZA 9803189	A	19981016	ZA 1998-3189	19980416
	US 2003104485	A1	20030605	US 1998-79569	19980514
	MX 9909387	A	20000630	MX 1999-9387	19991013
	NO 9905044	A	19991215	NO 1999-5044	19991015
	AU 2001095234	A5	20020124	AU 2001-95234	20011130
PRAI	US 1997-842842	A	19970416		
	US 1997-880855	A2	19970623		
	US 1998-52521	A	19980330		
	AU 1998-71205	A3	19980415		
	WO 1998-US7584	W	19980415		

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 25 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
AN AAW83201 peptide DGENE  
TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
IN Boyle W J  
PA (AMGE-N) AMGEN INC.  
PI WO 9846751 A1 19981022 47  
AI WO 1998-US7584 19980415  
PRAI US 1998-52521 19980330  
US 1997-842842 19970416  
US 1997-880855 19970623  
DT Patent  
LA English  
OS 1998-594578 [50]  
DESC Murine osteoclast differentiation and activation receptor peptide.

L2 ANSWER 26 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAW83200 Protein DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 CR N-PSDB: AAV70304  
 DESC Murine osteoclast differentiation and activation receptor.

L2 ANSWER 27 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAW83199 peptide DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* EF  
 loop-Cys peptide.

L2 ANSWER 28 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAW83198 peptide DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* EF  
 loop peptide.

L2 ANSWER 29 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAW83197 peptide DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* BB'  
 loop-Cys peptide.

L2 ANSWER 30 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAW83196 peptide DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* BB' loop peptide.

L2 ANSWER 31 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAW83195 Protein DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 CR N-PSDB: AAV70285  
 DESC Human \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* from the pcDNA/huOPGbp1.insert.

L2 ANSWER 32 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAW83194 Protein DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 CR N-PSDB: AAV70284  
 DESC Human \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* from the 32D-F3 ins.

L2 ANSWER 33 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70306 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine osteoclast differentiation and activation receptor PCR primer #2.



L2 ANSWER 34 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70305 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine osteoclast differentiation and activation receptor PCR primer #1.

L2 ANSWER 35 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70304 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 CR P-PSDB: AAW83200  
 DESC Murine osteoclast differentiation and activation receptor encoding DNA.

L2 ANSWER 36 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70303 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* PCR primer 1616-42.

L2 ANSWER 37 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70302 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* PCR primer 1616-41.

L2 ANSWER 38 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70301 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* PCR primer 1616-44.

L2 ANSWER 39 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70300 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* PCR primer 1602-59.

L2 ANSWER 40 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70299 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* PCR primer 1602-61.

L2 ANSWER 41 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70298 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* PCR primer 1581-74.

L2 ANSWER 42 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70297 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* PCR primer 1581-75.

L2 ANSWER 43 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70296 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* PCR primer 1581-73.

L2 ANSWER 44 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70295 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* PCR primer 1619-86.

L2 ANSWER 45 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70294 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* PCR primer 1600-98.

L2 ANSWER 46 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70293 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* PCR primer 1591-92.

L2 ANSWER 47 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70292 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* PCR primer 1591-91.

L2 ANSWER 48 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70291 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* PCR primer 1591-94.

L2 ANSWER 49 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70290 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* PCR primer 1591-93.

L2 ANSWER 50 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70289 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* PCR primer 1591-95.

L2 ANSWER 51 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70288 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* PCR primer 1591-90.

L2 ANSWER 52 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70287 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* PCR primer 1581-76.

L2 ANSWER 53 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70286 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 DESC Murine \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* PCR primer 1581-72.

L2 ANSWER 54 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70285 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 CR P-PSDB: AAW83195  
 DESC Human \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* from the pcDNA/huOPGbp1.linsert.

L2 ANSWER 55 OF 128 DGENE COPYRIGHT 2005 The Thomson Corp on STN  
 AN AAV70284 DNA DGENE  
 TI Nucleic acid encoding osteoprotegrin binding protein - useful for, e.g. treating bone diseases by modulating osteoclast differentiation and for diagnosis  
 IN Boyle W J  
 PA (AMGE-N) AMGEN INC.  
 PI WO 9846751 A1 19981022 47  
 AI WO 1998-US7584 19980415  
 PRAI US 1998-52521 19980330  
 US 1997-842842 19970416  
 US 1997-880855 19970623  
 DT Patent  
 LA English  
 OS 1998-594578 [50]  
 CR P-PSDB: AAW83194  
 DESC Human \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\* \*\*\*protein\*\*\* encoding DNA from the 32D-F3 ins.

L2 ANSWER 56 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232668 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232668  
 GenBank VERSION (VER): AX232668.1 GI:15592662  
 CAS REGISTRY NO. (RN): 357143-84-1  
 SEQUENCE LENGTH (SQL): 23  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 154 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 4 a 9 c 5 g 5 t  
 REFERENCE: 1 (bases 1 to 23)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 154 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..23	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 ccgggcgcgc cttattaaca ctc

L2 ANSWER 57 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232667 GenBank (R)

GenBank ACC. NO. (GBN): AX232667  
 GenBank VERSION (VER): AX232667.1 GI:15592661  
 CAS REGISTRY NO. (RN): 357143-83-0  
 SEQUENCE LENGTH (SQL): 51  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 153 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 8 a 16 c 20 g 7 t  
 REFERENCE: 1 (bases 1 to 51)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 153 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..51	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 ccggtcaaca cactacgtac gtgtgcggcg gcgcgggcgt tcggccaagg g

L2 ANSWER 58 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232666 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232666  
 GenBank VERSION (VER): AX232666.1 GI:15592660  
 CAS REGISTRY NO. (RN): 382255-02-9  
 SEQUENCE LENGTH (SQL): 48  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 152 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 6 a 13 c 16 g 13 t  
 REFERENCE: 1 (bases 1 to 48)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 152 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..48	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 ccgctcagct cctggggctc ctgctattgt ggttgagagg tgccagat

L2 ANSWER 59 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232665 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232665  
 GenBank VERSION (VER): AX232665.1 GI:15592659  
 CAS REGISTRY NO. (RN): 357143-82-9  
 SEQUENCE LENGTH (SQL): 40  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 151 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct

artificial sequence  
 NUCLEIC ACID COUNT (NA): 7 a 7 c 17 g 9 t  
 REFERENCE: 1 (bases 1 to 40)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 151 30-AUG-2001; Amgen Inc. (US)

# FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..40	/organism="synthetic construct" /db-xref="taxon:32630"

# SEQUENCE (SEQ):

1 gtggttgaga ggtgccagat gtcaggtcca gctggtgcag

L2 ANSWER 60 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232664 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232664  
 GenBank VERSION (VER): AX232664.1 GI:15592658  
 CAS REGISTRY NO. (RN): 357143-81-8  
 SEQUENCE LENGTH (SQL): 53  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 150 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 12 a 8 c 17 g 16 t  
 REFERENCE: 1 (bases 1 to 53)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 150 30-AUG-2001; Amgen Inc. (US)

# FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..53	/organism="synthetic construct" /db-xref="taxon:32630"

# SEQUENCE (SEQ):

1 gtgtattact gtgcgagaga tgccgcagct atggttcggg gaattattat agc

L2 ANSWER 61 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232663 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232663  
 GenBank VERSION (VER): AX232663.1 GI:15592657  
 CAS REGISTRY NO. (RN): 357143-80-7  
 SEQUENCE LENGTH (SQL): 53  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 149 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 12 a 8 c 16 g 17 t  
 REFERENCE: 1 (bases 1 to 53)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 149 30-AUG-2001; Amgen Inc. (US)

# FEATURES (FEAT):



Feature Key	Location	Qualifier
source	1..53	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):

1 gtgtattact gtgcgagaga ttccgcagct atggttcggg gaattattat agc

L2 ANSWER 62 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232662 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232662  
 GenBank VERSION (VER): AX232662.1 GI:15592656  
 CAS REGISTRY NO. (RN): 357143-79-4  
 SEQUENCE LENGTH (SQL): 53  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 148 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence

NUCLEIC ACID COUNT (NA): 12 a 8 c 16 g 17 t

REFERENCE: 1 (bases 1 to 53)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 148 30-AUG-2001; Amgen Inc. (US)

Feature Key	Location	Qualifier
source	1..53	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):

1 gtgtattact gtgcgagaga tgcctcagct atggttcggg gaattattat agc

L2 ANSWER 63 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232661 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232661  
 GenBank VERSION (VER): AX232661.1 GI:15592655  
 CAS REGISTRY NO. (RN): 357143-78-3  
 SEQUENCE LENGTH (SQL): 48  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 147 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence

NUCLEIC ACID COUNT (NA): 12 a 6 c 15 g 15 t

REFERENCE: 1 (bases 1 to 48)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 147 30-AUG-2001; Amgen Inc. (US)

Feature Key	Location	Qualifier
source	1..48	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):

1 gtgtattact gtgcgagaga tgccgcaa atggttcggg gaattatt

L2 ANSWER 64 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232660 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232660  
 GenBank VERSION (VER): AX232660.1 GI:15592654  
 CAS REGISTRY NO. (RN): 382255-01-8  
 SEQUENCE LENGTH (SQL): 30  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 146 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 7 a 5 c 14 g 4 t  
 REFERENCE: 1 (bases 1 to 30)  
 AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 146 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..30	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 gtggaggcac tagagacggt gaccaggggtg

L2 ANSWER 65 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232659 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232659  
 GenBank VERSION (VER): AX232659.1 GI:15592653  
 CAS REGISTRY NO. (RN): 357143-77-2  
 SEQUENCE LENGTH (SQL): 36  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 145 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 7 a 13 c 8 g 8 t  
 REFERENCE: 1 (bases 1 to 36)  
 AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 145 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..36	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 cacagccgtg tcttcagatc tcagactgcg cagctc

L2 ANSWER 66 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232658 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232658  
 GenBank VERSION (VER): AX232658.1 GI:15592652  
 CAS REGISTRY NO. (RN): 357143-76-1  
 SEQUENCE LENGTH (SQL): 52  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 144 from Patent WO0162932.  
 SOURCE: synthetic construct.

ORGANISM (ORGN): synthetic construct  
artificial sequence

NUCLEIC ACID COUNT (NA): 12 a 17 c 15 g 8 t

REFERENCE: 1 (bases 1 to 52)

AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.

TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 144 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..52	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):

1 cagcagaagc ttagaccacc atggacatga ggggtccccgc tcagctcctg gg

L2 ANSWER 67 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232657 GenBank (R)

GenBank ACC. NO. (GBN): AX232657

GenBank VERSION (VER): AX232657.1 GI:15592651

CAS REGISTRY NO. (RN): 382255-00-7

SEQUENCE LENGTH (SQL): 42

MOLECULE TYPE (CI): DNA; linear

DIVISION CODE (CI): Patent

DATE (DATE): 11 Sep 2001

DEFINITION (DEF): Sequence 143 from Patent WO0162932.

SOURCE: synthetic construct.

ORGANISM (ORGN): synthetic construct  
artificial sequence

NUCLEIC ACID COUNT (NA): 11 a 7 c 13 g 11 t

REFERENCE: 1 (bases 1 to 42)

AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.

TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 143 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..42	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):

1 agtctgagat ctgaagacac ggctgtgtat tactgtgcga ga

L2 ANSWER 68 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232656 GenBank (R)

GenBank ACC. NO. (GBN): AX232656

GenBank VERSION (VER): AX232656.1 GI:15592650

CAS REGISTRY NO. (RN): 357143-75-0

SEQUENCE LENGTH (SQL): 41

MOLECULE TYPE (CI): DNA; linear

DIVISION CODE (CI): Patent

DATE (DATE): 11 Sep 2001

DEFINITION (DEF): Sequence 142 from Patent WO0162932.

SOURCE: synthetic construct.

ORGANISM (ORGN): synthetic construct  
artificial sequence

NUCLEIC ACID COUNT (NA): 14 a 13 c 5 g 9 t

REFERENCE: 1 (bases 1 to 41)

AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.

TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 142 30-AUG-2001; Amgen Inc. (US)

## FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..41	/organism="synthetic construct" /db-xref="taxon:32630"

## SEQUENCE (SEQ):

1 aataattccc cgaaccatca cattgaggaa tctctcgac a

L2 ANSWER 69 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232655 GenBank (R)

GenBank ACC. NO. (GBN): AX232655

GenBank VERSION (VER): AX232655.1 GI:15592649

CAS REGISTRY NO. (RN): 357143-74-9

SEQUENCE LENGTH (SQL): 41

MOLECULE TYPE (CI): DNA; linear

DIVISION CODE (CI): Patent

DATE (DATE): 11 Sep 2001

DEFINITION (DEF): Sequence 141 from Patent WO0162932.

SOURCE: synthetic construct.

ORGANISM (ORGN): synthetic construct

artificial sequence

NUCLEIC ACID COUNT (NA): 12 a 13 c 6 g 10 t

REFERENCE: 1 (bases 1 to 41)

AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.

TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 141 30-AUG-2001; Amgen Inc. (US)

## FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..41	/organism="synthetic construct" /db-xref="taxon:32630"

## SEQUENCE (SEQ):

1 aataattccc cgaaccatct cggtgaggaa tctctcgac a

L2 ANSWER 70 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232654 GenBank (R)

GenBank ACC. NO. (GBN): AX232654

GenBank VERSION (VER): AX232654.1 GI:15592648

CAS REGISTRY NO. (RN): 357143-73-8

SEQUENCE LENGTH (SQL): 43

MOLECULE TYPE (CI): DNA; linear

DIVISION CODE (CI): Patent

DATE (DATE): 11 Sep 2001

DEFINITION (DEF): Sequence 140 from Patent WO0162932.

SOURCE: synthetic construct.

ORGANISM (ORGN): synthetic construct

artificial sequence

NUCLEIC ACID COUNT (NA): 13 a 13 c 8 g 9 t

REFERENCE: 1 (bases 1 to 43)

AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.

TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 140 30-AUG-2001; Amgen Inc. (US)

## FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..43	/organism="synthetic construct" /db-xref="taxon:32630"

## SEQUENCE (SEQ):

1 aataattccc cgaaccatgc gacgttgagg aatctctcgc aca

L2 ANSWER 71 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232653 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232653  
 GenBank VERSION (VER): AX232653.1 GI:15592647  
 CAS REGISTRY NO. (RN): 357143-72-7  
 SEQUENCE LENGTH (SQL): 43  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 139 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 14 a 12 c 7 g 10 t  
 REFERENCE: 1 (bases 1 to 43)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 139 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..43	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 aataattccc cgaaccatga tacgttgagg aatctctcgc aca

L2 ANSWER 72 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232652 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232652  
 GenBank VERSION (VER): AX232652.1 GI:15592646  
 CAS REGISTRY NO. (RN): 357143-71-6  
 SEQUENCE LENGTH (SQL): 44  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 138 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 15 a 13 c 5 g 11 t  
 REFERENCE: 1 (bases 1 to 44)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 138 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..44	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 aataattccc cgaaccatat tcacatggaa tctctcgac agta

L2 ANSWER 73 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232651 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232651  
 GenBank VERSION (VER): AX232651.1 GI:15592645  
 CAS REGISTRY NO. (RN): 357143-70-5  
 SEQUENCE LENGTH (SQL): 44  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 137 from Patent WO0162932.

SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 13 a 13 c 6 g 12 t  
 REFERENCE: 1 (bases 1 to 44)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 137 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..44	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 aataattccc cgaaccatat tctcgtggaa tctctcgac agta

L2 ANSWER 74 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232650 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232650  
 GenBank VERSION (VER): AX232650.1 GI:15592644  
 CAS REGISTRY NO. (RN): 357143-69-2  
 SEQUENCE LENGTH (SQL): 46  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 136 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 14 a 13 c 8 g 11 t  
 REFERENCE: 1 (bases 1 to 46)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 136 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..46	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 aataattccc cgaaccatat tgcgacgtgg aatctctcgc acagta

L2 ANSWER 75 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232649 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232649  
 GenBank VERSION (VER): AX232649.1 GI:15592643  
 CAS REGISTRY NO. (RN): 357143-68-1  
 SEQUENCE LENGTH (SQL): 46  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 135 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 15 a 12 c 7 g 12 t  
 REFERENCE: 1 (bases 1 to 46)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 135 30-AUG-2001; Amgen Inc. (US)

## FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..46	/organism="synthetic construct" /db-xref="taxon:32630"

## SEQUENCE (SEQ):

1 aataattccc cgaaccatat tgatacgtgg aatctctcgc acagta

L2 ANSWER 76 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232648 GenBank (R)

GenBank ACC. NO. (GBN): AX232648

GenBank VERSION (VER): AX232648.1 GI:15592642

CAS REGISTRY NO. (RN): 357143-67-0

SEQUENCE LENGTH (SQL): 44

MOLECULE TYPE (CI): DNA; linear

DIVISION CODE (CI): Patent

DATE (DATE): 11 Sep 2001

DEFINITION (DEF): Sequence 134 from Patent WO0162932.

SOURCE: synthetic construct.

ORGANISM (ORGN): synthetic construct

artificial sequence

NUCLEIC ACID COUNT (NA): 15 a 13 c 4 g 12 t

REFERENCE: 1 (bases 1 to 44)

AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.

TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 134 30-AUG-2001; Amgen Inc. (US)

## FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..44	/organism="synthetic construct" /db-xref="taxon:32630"

## SEQUENCE (SEQ):

1 aataattccc cgaaccatat ttgacacata tctctcgcac agta

L2 ANSWER 77 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232647 GenBank (R)

GenBank ACC. NO. (GBN): AX232647

GenBank VERSION (VER): AX232647.1 GI:15592641

CAS REGISTRY NO. (RN): 357143-66-9

SEQUENCE LENGTH (SQL): 44

MOLECULE TYPE (CI): DNA; linear

DIVISION CODE (CI): Patent

DATE (DATE): 11 Sep 2001

DEFINITION (DEF): Sequence 133 from Patent WO0162932.

SOURCE: synthetic construct.

ORGANISM (ORGN): synthetic construct

artificial sequence

NUCLEIC ACID COUNT (NA): 13 a 13 c 5 g 13 t

REFERENCE: 1 (bases 1 to 44)

AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.

TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 133 30-AUG-2001; Amgen Inc. (US)

## FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..44	/organism="synthetic construct" /db-xref="taxon:32630"

## SEQUENCE (SEQ):

1 aataattccc cgaaccatat ttgactcgta tctctcgcac agta

LOCUS (LOC): AX232646 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232646  
 GenBank VERSION (VER): AX232646.1 GI:15592640  
 CAS REGISTRY NO. (RN): 357143-65-8  
 SEQUENCE LENGTH (SQL): 46  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 132 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 14 a 13 c 7 g 12 t  
 REFERENCE: 1 (bases 1 to 46)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 132 30-AUG-2001; Amgen Inc. (US)

## FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..46	/organism="synthetic construct" /db-xref="taxon:32630"

## SEQUENCE (SEQ):

1 aataattccc cgaaccatat ttgagcgacg tatctctcgc acagta

LOCUS (LOC): AX232645 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232645  
 GenBank VERSION (VER): AX232645.1 GI:15592639  
 CAS REGISTRY NO. (RN): 357143-64-7  
 SEQUENCE LENGTH (SQL): 46  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 131 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 15 a 12 c 6 g 13 t  
 REFERENCE: 1 (bases 1 to 46)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 131 30-AUG-2001; Amgen Inc. (US)

## FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..46	/organism="synthetic construct" /db-xref="taxon:32630"

## SEQUENCE (SEQ):

1 aataattccc cgaaccatat ttgagatacg tatctctcgc acagta

LOCUS (LOC): AX232644 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232644  
 GenBank VERSION (VER): AX232644.1 GI:15592638  
 CAS REGISTRY NO. (RN): 382254-99-1  
 SEQUENCE LENGTH (SQL): 36  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001



DEFINITION (DEF): Sequence 130 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 14 a 8 c 5 g 9 t  
 REFERENCE: 1 (bases 1 to 36)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 130 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..36	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 gtagtcaaaa tagtagcgcta taataattcc ccgaac

L2 ANSWER 81 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232643 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232643  
 GenBank VERSION (VER): AX232643.1 GI:15592637  
 CAS REGISTRY NO. (RN): 382254-98-0  
 SEQUENCE LENGTH (SQL): 36  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 129 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 9 a 11 c 10 g 6 t  
 REFERENCE: 1 (bases 1 to 36)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 129 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..36	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 cagggtgccc tggccccagt agtcaaaata gtacgc

L2 ANSWER 82 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232642 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232642  
 GenBank VERSION (VER): AX232642.1 GI:15592636  
 CAS REGISTRY NO. (RN): 357143-63-6  
 SEQUENCE LENGTH (SQL): 32  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 128 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 5 a 11 c 11 g 5 t  
 REFERENCE: 1 (bases 1 to 32)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 128 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..32	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):

1 cttgagacgg tgaccagggt gccctggccc ca

L2 ANSWER 83 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232641 GenBank (R)  
GenBank ACC. NO. (GBN): AX232641  
GenBank VERSION (VER): AX232641.1 GI:15592635  
CAS REGISTRY NO. (RN): 382254-97-9  
SEQUENCE LENGTH (SQL): 39  
MOLECULE TYPE (CI): DNA; linear  
DIVISION CODE (CI): Patent  
DATE (DATE): 11 Sep 2001  
DEFINITION (DEF): Sequence 127 from Patent WO0162932.  
SOURCE: synthetic construct.  
ORGANISM (ORGN): synthetic construct  
artificial sequence  
NUCLEIC ACID COUNT (NA): 12 a 5 c 10 g 12 t  
REFERENCE: 1 (bases 1 to 39)  
AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*  
JOURNAL (SO): Patent: WO 0162932-A 127 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..39	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):

1 agagattcct caaatatggt tcggggaatt attatagcg

L2 ANSWER 84 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232640 GenBank (R)  
GenBank ACC. NO. (GBN): AX232640  
GenBank VERSION (VER): AX232640.1 GI:15592634  
CAS REGISTRY NO. (RN): 382254-96-8  
SEQUENCE LENGTH (SQL): 33  
MOLECULE TYPE (CI): DNA; linear  
DIVISION CODE (CI): Patent  
DATE (DATE): 11 Sep 2001  
DEFINITION (DEF): Sequence 126 from Patent WO0162932.  
SOURCE: synthetic construct.  
ORGANISM (ORGN): synthetic construct  
artificial sequence  
NUCLEIC ACID COUNT (NA): 9 a 5 c 8 g 11 t  
REFERENCE: 1 (bases 1 to 33)  
AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*  
JOURNAL (SO): Patent: WO 0162932-A 126 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..33	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):

1 gtgtattact gtgcgagaga ttcctcaa atg

LOCUS (LOC): AX232639 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232639  
 GenBank VERSION (VER): AX232639.1 GI:15592633  
 CAS REGISTRY NO. (RN): 357143-62-5  
 SEQUENCE LENGTH (SQL): 42  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 125 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 11 a 7 c 13 g 11 t  
 REFERENCE: 1 (bases 1 to 42)  
 AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 125 30-AUG-2001; Amgen Inc. (US)

## FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..42	/organism="synthetic construct" /db-xref="taxon:32630"

## SEQUENCE (SEQ):

1 agtctgagat ctgaagacac ggctgtgtat tactgtgcga ga

LOCUS (LOC): AX232638 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232638  
 GenBank VERSION (VER): AX232638.1 GI:15592632  
 CAS REGISTRY NO. (RN): 357143-61-4  
 SEQUENCE LENGTH (SQL): 39  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 124 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 9 a 12 c 11 g 7 t  
 REFERENCE: 1 (bases 1 to 39)  
 AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 124 30-AUG-2001; Amgen Inc. (US)

## FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..39	/organism="synthetic construct" /db-xref="taxon:32630"

## SEQUENCE (SEQ):

1 cagggtgccc tggccccagg cgtcaaaata gtacgctat

LOCUS (LOC): AX232637 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232637  
 GenBank VERSION (VER): AX232637.1 GI:15592631  
 CAS REGISTRY NO. (RN): 357143-60-3  
 SEQUENCE LENGTH (SQL): 39  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent

DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 123 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 10 a 11 c 11 g 7 t  
 REFERENCE: 1 (bases 1 to 39)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 123 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..39	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 caggggtgccc tggccccagt aggcaaaata gtacgctat

L2 ANSWER 88 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232636 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232636  
 GenBank VERSION (VER): AX232636.1 GI:15592630  
 CAS REGISTRY NO. (RN): 357143-59-0  
 SEQUENCE LENGTH (SQL): 42  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 122 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 10 a 12 c 11 g 9 t  
 REFERENCE: 1 (bases 1 to 42)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 122 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..42	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 caggggtgccc tggccccagt agtcagcata gtacgctata at

L2 ANSWER 89 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232635 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232635  
 GenBank VERSION (VER): AX232635.1 GI:15592629  
 CAS REGISTRY NO. (RN): 357143-58-9  
 SEQUENCE LENGTH (SQL): 45  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 121 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 12 a 13 c 10 g 10 t  
 REFERENCE: 1 (bases 1 to 45)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*

\*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 121 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..45	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):

1 ggtgccctgg cccagtagt caaaagcgta cgctataata attcc

L2 ANSWER 90 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232634 GenBank (R)

GenBank ACC. NO. (GBN): AX232634

GenBank VERSION (VER): AX232634.1 GI:15592628

CAS REGISTRY NO. (RN): 357143-57-8

SEQUENCE LENGTH (SQL): 45

MOLECULE TYPE (CI): DNA; linear

DIVISION CODE (CI): Patent

DATE (DATE): 11 Sep 2001

DEFINITION (DEF): Sequence 120 from Patent WO0162932.

SOURCE: synthetic construct.

ORGANISM (ORGN): synthetic construct

artificial sequence

NUCLEIC ACID COUNT (NA): 12 a 13 c 10 g 10 t

REFERENCE: 1 (bases 1 to 45)

AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.

TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 120 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..45	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):

1 ggtgccctgg cccagtagt caaaataggc cgctataata attcc

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LOCUS (LOC): AX232633 GenBank (R)

GenBank ACC. NO. (GBN): AX232633

GenBank VERSION (VER): AX232633.1 GI:15592627

CAS REGISTRY NO. (RN): 357143-56-7

SEQUENCE LENGTH (SQL): 36

MOLECULE TYPE (CI): DNA; linear

DIVISION CODE (CI): Patent

DATE (DATE): 11 Sep 2001

DEFINITION (DEF): Sequence 119 from Patent WO0162932.

SOURCE: synthetic construct.

ORGANISM (ORGN): synthetic construct

artificial sequence

NUCLEIC ACID COUNT (NA): 13 a 9 c 6 g 8 t

REFERENCE: 1 (bases 1 to 36)

AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.

TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 119 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..36	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):

1 gtagtcaaaa tagtacgctg caataattcc ccgaac

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LOCUS (LOC): AX232632 GenBank (R)  
GenBank ACC. NO. (GBN): AX232632  
GenBank VERSION (VER): AX232632.1 GI:15592626  
CAS REGISTRY NO. (RN): 357143-55-6  
SEQUENCE LENGTH (SQL): 39  
MOLECULE TYPE (CI): DNA; linear  
DIVISION CODE (CI): Patent  
DATE (DATE): 11 Sep 2001  
DEFINITION (DEF): Sequence 118 from Patent WO0162932.  
SOURCE: synthetic construct.  
ORGANISM (ORGN): synthetic construct  
artificial sequence  
NUCLEIC ACID COUNT (NA): 13 a 10 c 7 g 9 t  
REFERENCE: 1 (bases 1 to 39)  
AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*  
JOURNAL (SO): Patent: WO 0162932-A 118 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..39	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):

1 gtagtcaaaa tagtacgcta tggcaattcc ccgaacct

L2 ANSWER 93 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232631 GenBank (R)  
GenBank ACC. NO. (GBN): AX232631  
GenBank VERSION (VER): AX232631.1 GI:15592625  
CAS REGISTRY NO. (RN): 357143-54-5  
SEQUENCE LENGTH (SQL): 42  
MOLECULE TYPE (CI): DNA; linear  
DIVISION CODE (CI): Patent  
DATE (DATE): 11 Sep 2001  
DEFINITION (DEF): Sequence 117 from Patent WO0162932.  
SOURCE: synthetic construct.  
ORGANISM (ORGN): synthetic construct  
artificial sequence  
NUCLEIC ACID COUNT (NA): 14 a 10 c 7 g 11 t  
REFERENCE: 1 (bases 1 to 42)  
AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*  
JOURNAL (SO): Patent: WO 0162932-A 117 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..42	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):

1 gtagtcaaaa tagtacgcta taatggctcc ccgaaccata tt

L2 ANSWER 94 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232630 GenBank (R)  
GenBank ACC. NO. (GBN): AX232630  
GenBank VERSION (VER): AX232630.1 GI:15592624  
CAS REGISTRY NO. (RN): 357143-53-4  
SEQUENCE LENGTH (SQL): 45  
MOLECULE TYPE (CI): DNA; linear

DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 116 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 17 a 8 c 7 g 13 t  
 REFERENCE: 1 (bases 1 to 45)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 116 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..45	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 gtagtcaaaa tagtacgcta taataattgc ccgaaccata tttga

L2 ANSWER 95 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232629 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232629  
 GenBank VERSION (VER): AX232629.1 GI:15592623  
 CAS REGISTRY NO. (RN): 357143-52-3  
 SEQUENCE LENGTH (SQL): 38  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 115 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 11 a 6 c 8 g 13 t  
 REFERENCE: 1 (bases 1 to 38)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 115 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..38	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 gattcctcaa atatggttgc cggaattatt atagcgta

L2 ANSWER 96 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232628 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232628  
 GenBank VERSION (VER): AX232628.1 GI:15592622  
 CAS REGISTRY NO. (RN): 357143-51-2  
 SEQUENCE LENGTH (SQL): 36  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 114 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 10 a 6 c 9 g 11 t  
 REFERENCE: 1 (bases 1 to 36)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of

\*\*\*osteoprotegerin\*\*\*      \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*

JOURNAL (SO):            Patent: WO 0162932-A 114 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..36	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):

1 gattcctcaa atatggctcg gggaattatt atagcg

L2    ANSWER 97 OF 128      GENBANK.RTM.    COPYRIGHT 2005 on STN

LOCUS (LOC):            AX232627      GenBank (R)  
GenBank ACC. NO. (GBN): AX232627  
GenBank VERSION (VER): AX232627.1    GI:15592621  
CAS REGISTRY NO. (RN): 357143-50-1  
SEQUENCE LENGTH (SQL): 36  
MOLECULE TYPE (CI):    DNA; linear  
DIVISION CODE (CI):    Patent  
DATE (DATE):            11 Sep 2001  
DEFINITION (DEF):      Sequence 113 from Patent WO0162932.  
SOURCE:                synthetic construct.  
ORGANISM (ORGN):       synthetic construct  
                         artificial sequence  
NUCLEIC ACID COUNT (NA): 10 a    10 c    7 g    9 t  
REFERENCE:              1 (bases 1 to 36)  
AUTHOR (AU):            Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
TITLE (TI):             Antagonistic selective binding agents of  
                         \*\*\*osteoprotegerin\*\*\*      \*\*\*binding\*\*\*  
                         \*\*\*protein\*\*\*  
JOURNAL (SO):           Patent: WO 0162932-A 113 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..36	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):

1 aataattccc cgaacggcat ttgaggaatc tctcgc

L2    ANSWER 98 OF 128      GENBANK.RTM.    COPYRIGHT 2005 on STN

LOCUS (LOC):            AX232626      GenBank (R)  
GenBank ACC. NO. (GBN): AX232626  
GenBank VERSION (VER): AX232626.1    GI:15592620  
CAS REGISTRY NO. (RN): 357143-49-8  
SEQUENCE LENGTH (SQL): 39  
MOLECULE TYPE (CI):    DNA; linear  
DIVISION CODE (CI):    Patent  
DATE (DATE):            11 Sep 2001  
DEFINITION (DEF):      Sequence 112 from Patent WO0162932.  
SOURCE:                synthetic construct.  
ORGANISM (ORGN):       synthetic construct  
                         artificial sequence  
NUCLEIC ACID COUNT (NA): 13 a    12 c    6 g    8 t  
REFERENCE:              1 (bases 1 to 39)  
AUTHOR (AU):            Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
TITLE (TI):             Antagonistic selective binding agents of  
                         \*\*\*osteoprotegerin\*\*\*      \*\*\*binding\*\*\*  
                         \*\*\*protein\*\*\*  
JOURNAL (SO):           Patent: WO 0162932-A 112 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..39	/organism="synthetic construct" /db-xref="taxon:32630"



## SEQUENCE (SEQ):

1 aataattccc cgaaccatag ctgaggaatc tctcgcac

L2 ANSWER 99 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232625 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232625  
 GenBank VERSION (VER): AX232625.1 GI:15592619  
 CAS REGISTRY NO. (RN): 357143-48-7  
 SEQUENCE LENGTH (SQL): 42  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 111 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 13 a 12 c 6 g 11 t  
 REFERENCE: 1 (bases 1 to 42)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 111 30-AUG-2001; Amgen Inc. (US)

## FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..42	/organism="synthetic construct" /db-xref="taxon:32630"

## SEQUENCE (SEQ):

1 aataattccc cgaaccatat ttgcggaatc tctcgcacag ta

L2 ANSWER 100 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232624 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232624  
 GenBank VERSION (VER): AX232624.1 GI:15592618  
 CAS REGISTRY NO. (RN): 357143-47-6  
 SEQUENCE LENGTH (SQL): 39  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 110 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 9 a 6 c 12 g 12 t  
 REFERENCE: 1 (bases 1 to 39)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 110 30-AUG-2001; Amgen Inc. (US)

## FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..39	/organism="synthetic construct" /db-xref="taxon:32630"

## SEQUENCE (SEQ):

1 gtgtattact gtgcgagaga tgcctcaa atgggttcgg

L2 ANSWER 101 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232623 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232623  
 GenBank VERSION (VER): AX232623.1 GI:15592617  
 CAS REGISTRY NO. (RN): 357143-46-5  
 SEQUENCE LENGTH (SQL): 39

MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 109 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 8 a 7 c 11 g 13 t  
 REFERENCE: 1 (bases 1 to 39)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 109 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..39	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 gtgtattact gtgcgagagc ttcctcaa atggttcgg

L2 ANSWER 102 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232622 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232622  
 GenBank VERSION (VER): AX232622.1 GI:15592616  
 CAS REGISTRY NO. (RN): 357143-45-4  
 SEQUENCE LENGTH (SQL): 36  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 108 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 9 a 11 c 10 g 6 t  
 REFERENCE: 1 (bases 1 to 36)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 108 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..36	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 cagggtgccc tggccccagt agtcaaaata gtacgc

L2 ANSWER 103 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232621 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232621  
 GenBank VERSION (VER): AX232621.1 GI:15592615  
 CAS REGISTRY NO. (RN): 357143-44-3  
 SEQUENCE LENGTH (SQL): 33  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 107 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 9 a 5 c 8 g 11 t  
 REFERENCE: 1 (bases 1 to 33)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.

TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*  
JOURNAL (SO): Patent: WO 0162932-A 107 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..33	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):

1 gtgtattact gtgcgagaga ttcctcaaat atg

L2 ANSWER 104 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232620 GenBank (R)  
GenBank ACC. NO. (GBN): AX232620  
GenBank VERSION (VER): AX232620.1 GI:15592614  
CAS REGISTRY NO. (RN): 357143-43-2  
SEQUENCE LENGTH (SQL): 36  
MOLECULE TYPE (CI): DNA; linear  
DIVISION CODE (CI): Patent  
DATE (DATE): 11 Sep 2001  
DEFINITION (DEF): Sequence 106 from Patent WO0162932.  
SOURCE: synthetic construct.  
ORGANISM (ORGN): synthetic construct  
artificial sequence  
NUCLEIC ACID COUNT (NA): 14 a 8 c 5 g 9 t  
REFERENCE: 1 (bases 1 to 36)  
AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*  
JOURNAL (SO): Patent: WO 0162932-A 106 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..36	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):

1 gtagtcaaaa tagtagcgcta taataattcc ccgaac

L2 ANSWER 105 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232619 GenBank (R)  
GenBank ACC. NO. (GBN): AX232619  
GenBank VERSION (VER): AX232619.1 GI:15592613  
CAS REGISTRY NO. (RN): 357143-42-1  
SEQUENCE LENGTH (SQL): 39  
MOLECULE TYPE (CI): DNA; linear  
DIVISION CODE (CI): Patent  
DATE (DATE): 11 Sep 2001  
DEFINITION (DEF): Sequence 105 from Patent WO0162932.  
SOURCE: synthetic construct.  
ORGANISM (ORGN): synthetic construct  
artificial sequence  
NUCLEIC ACID COUNT (NA): 12 a 5 c 10 g 12 t  
REFERENCE: 1 (bases 1 to 39)  
AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*  
JOURNAL (SO): Patent: WO 0162932-A 105 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..39	/organism="synthetic construct" /db-xref="taxon:32630"

## SEQUENCE (SEQ):

1 agagattcct caaatatggt tcggggaatt attatagcg

L2 ANSWER 106 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232617 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232617  
 GenBank VERSION (VER): AX232617.1 GI:15592612  
 CAS REGISTRY NO. (RN): 357143-41-0  
 SEQUENCE LENGTH (SQL): 25  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 103 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 3 a 9 c 4 g 9 t  
 REFERENCE: 1 (bases 1 to 25)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 103 30-AUG-2001; Amgen Inc. (US)

## FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..25	/organism="synthetic construct" /db-xref="taxon:32630"

## SEQUENCE (SEQ):

1 cctctcctcg agttagtcta tgtcc

L2 ANSWER 107 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232616 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232616  
 GenBank VERSION (VER): AX232616.1 GI:15592611  
 CAS REGISTRY NO. (RN): 357143-40-9  
 SEQUENCE LENGTH (SQL): 30  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 102 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 6 a 6 c 8 g 10 t  
 REFERENCE: 1 (bases 1 to 30)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 102 30-AUG-2001; Amgen Inc. (US)

## FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..30	/organism="synthetic construct" /db-xref="taxon:32630"

## SEQUENCE (SEQ):

1 ctggctactg aatatcttca gctgatggtg

L2 ANSWER 108 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232615 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232615  
 GenBank VERSION (VER): AX232615.1 GI:15592610  
 CAS REGISTRY NO. (RN): 357143-39-6

SEQUENCE LENGTH (SQL): 30  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 101 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 6 a 7 c 8 g 9 t  
 REFERENCE: 1 (bases 1 to 30)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 101 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..30	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 agtagccagg tctcccgatg tttcatgatg

L2 ANSWER 109 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232614 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232614  
 GenBank VERSION (VER): AX232614.1 GI:15592609  
 CAS REGISTRY NO. (RN): 357143-38-5  
 SEQUENCE LENGTH (SQL): 23  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 100 from Patent WO0162932.  
 SOURCE: synthetic construct.  
 ORGANISM (ORGN): synthetic construct  
 artificial sequence  
 NUCLEIC ACID COUNT (NA): 7 a 7 c 4 g 5 t  
 REFERENCE: 1 (bases 1 to 23)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 100 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..23	/organism="synthetic construct" /db-xref="taxon:32630"

SEQUENCE (SEQ):  
 1 cctctcatat ggactacaag gac

L2 ANSWER 110 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232589 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232589  
 GenBank VERSION (VER): AX232589.1 GI:15592607  
 CAS REGISTRY NO. (RN): 391057-99-1  
 SEQUENCE LENGTH (SQL): 522  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 75 from Patent WO0162932.  
 SOURCE: house mouse.  
 ORGANISM (ORGN): Mus musculus  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
 Euteleostomi; Mammalia; Eutheria; Rodentia;  
 Sciurognathi; Muridae; Murinae; Mus

NUCLEIC ACID COUNT (NA): 149 a 127 c 117 g 129 t  
REFERENCE: 1 (bases 1 to 522)  
AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*  
JOURNAL (SO): Patent: WO 0162932-A 75 30-AUG-2001; Amgen Inc. (US)

# FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..522	/organism="Mus musculus"
		/db-xref="taxon:10090"
CDS	4..516	/note="unnamed protein product"
		/codon-start=1
		/protein-id="CAC69727.1"
		/db-xref="GI:15592608"
		/translation="MDYKDDDDKKLKPEAQPFah LTINAASIPSGSHKVTLSWYHDR GWAKISNMTLSNGKLRVNQDGFYYLYANICFRHH ETSGDLATEYLQLMVYVVKTSIKI PSSHNLMKGGSTKNWSGNSEFHFYSINVGGFKL RAGEEISIQVSNPSLLDPDQDATY FGAFKVQDID"

# SEQUENCE (SEQ):

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1 catatggact acaaggacga cgatgacaag aagcttaagc ctgaggccca gccatttgca
61 cacctcacca tcaatgctgc cagcatccca tcgggttccc ataaagtcac tctgtcctct
121 tggtagcacg atcgaggctg ggccaagatc tctaacaatga cgtaagcaa cggaaaacta
181 aggggttaacc aagatggctt ctattacctg tacgctaaca tttgctttcg gcatcatgaa
241 acatcgaggag acctggctac tgaatatctt cagctgatgg tgtatgtcgt taaaaccagc
301 atcaaaatcc caagttctca taacctgatg aaaggaggga gcacgaaaaa ctggtcgggc
361 aattctgaat tccactttta ttccataaat gttgggggat ttttcaagct ccgagctggt
421 gaagaaatta gcattcaggt gtccaaccct tccctgctgg atccggatca agatgcgacg
481 tactttgggg ctttcaaagt tcaggacata gactaactcg ag

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LOCUS (LOC): AX232572 GenBank (R)  
GenBank ACC. NO. (GBN): AX232572  
GenBank VERSION (VER): AX232572.1 GI:15592605  
CAS REGISTRY NO. (RN): 391057-98-0  
SEQUENCE LENGTH (SQL): 681  
MOLECULE TYPE (CI): DNA; linear  
DIVISION CODE (CI): Patent  
DATE (DATE): 11 Sep 2001  
DEFINITION (DEF): Sequence 58 from Patent WO0162932.  
SOURCE: human.  
ORGANISM (ORGN): Homo sapiens  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;  
Hominidae; Homo

NUCLEIC ACID COUNT (NA): 145 a 207 c 194 g 135 t  
REFERENCE: 1 (bases 1 to 681)  
AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*  
JOURNAL (SO): Patent: WO 0162932-A 58 30-AUG-2001; Amgen Inc. (US)

# FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..681	/organism="Homo sapiens"
		/db-xref="taxon:9606"
CDS	<1..>681	/note="unnamed protein product"
		/codon-start=1
		/protein-id="CAC69726.1"
		/db-xref="GI:15592606"
		/translation="AEVQLLESggGLVQGRSLR LSCAASGFTFDYAMHWVRQAPGK GLEWVSGISWNSGRIGYADSVKGRFTISRDNAKN

SLYLQMNLSRPEDTAFYYCAKGGG  
TSARYSSGWYYWGQGTLLTVSSASTKGPSVFPLA  
PSSKSTSGGTAALGCLVKDYFPEP  
VTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVT  
VPSSSLGTQTYICNVNHKPSNTKV  
DKKVEPKSC"

SEQUENCE (SEQ) :

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1 gccgaggtgc agctgctgga gtctggggga ggcttggtac aacctggcag gtccctgaga
61 ctctcctgtg cagcctctgg attcaccttt gatgattatg ccatgcactg ggtccggcaa
121 gctccaggga agggcctgga gtgggtctca ggtattagtt ggaatagtgg taggataggc
181 tatgcggact ctgtgaaggg ccgattcacc atctccagag acaacgcaa gaactccctg
241 tatctgcaaa tgaacagtct gagacctgag gacacggcct tctattactg tgcaaaaggg
301 gggtctacaa gcgcgaggta tagcagtggc tgggtactact gggggccaggg caccctggtc
361 accgtctcaa gcgcctccac caaggggcca tcgggtcttcc ccttggcacc ctctccaag
421 agcacctctg ggggcacagc ggccctgggc tgcctgttca aggactactt cccgaaccg
481 gtgacgggtg cgtggaactc aggcgcctg accagcggcg tccacacctt cccggctgtc
541 ctacagtcct caggactcta ctccctcagc agcgtagtga ccgtgccctc cagcagcttg
601 ggcacccaga cctacatctg caacgtgaat cacaagccca gcaacaccaa ggtggacaag
661 aaagttgagc ccaaatcttg t
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LOCUS (LOC): AX232570 GenBank (R)  
GenBank ACC. NO. (GBN): AX232570  
GenBank VERSION (VER): AX232570.1 GI:15592603  
CAS REGISTRY NO. (RN): 391057-97-9  
SEQUENCE LENGTH (SQL): 660  
MOLECULE TYPE (CI): DNA; linear  
DIVISION CODE (CI): Patent  
DATE (DATE): 11 Sep 2001  
DEFINITION (DEF): Sequence 56 from Patent WO0162932.  
SOURCE: human.  
ORGANISM (ORGN): Homo sapiens  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;  
Hominidae; Homo  
NUCLEIC ACID COUNT (NA): 142 a 202 c 184 g 132 t  
REFERENCE: 1 (bases 1 to 660)  
AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.  
TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*  
JOURNAL (SO): Patent: WO 0162932-A 56 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..660	/organism="Homo sapiens" /db-xref="taxon:9606"
CDS	<1..>660	/note="unnamed protein product" /codon-start=1 /protein-id="CAC69725.1" /db-xref="GI:15592604" /translation="AEVQLVQSGGGLVQPGGSLR LSCLVSGFTFNNYPMHVVRQAPGK GLEWVAVISYDGNKYYADSVKGRFTISRDN SKN TLYLQMNLSRSED TAVYYCARGGG GFDYWGQGTLLTVSSASTKGPSVFPLAPSSKSTS GGTAALGCLVKDYFPEPVTVSWNS GALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLG TQTYICNVNHKPSNTKVDKKVEPK SC"

SEQUENCE (SEQ) :

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61 ctctcctgtt tagtctctgg attcaccttc aataactatc ctatgcactg ggtccgccag
121 gctccaggca aggggctgga gtgggtggca gttatatcat atgatggaaa taataaatac
181 tacgcagact ccgtgaaggg ccgattcacc atctccagag acaattccaa gaacacgctg
241 tatttgcaaa tgaacagcct gagatctgag gacacggccg tgtattactg tgcgaggggg
301 ggcgggtggct ttgactactg gggccaggga accctgggtc ccgtctcaag cgctccacc
361 aagggcccat cggtcttccc cctggcacc tcctccaaga gcacctctgg gggcacagcg
421 gccctgggct gcctgggtcaa ggactacttc cccgaaccgg tgacgggtgtc gtggaactca
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481 ggcgccttga ccagcggcgt ccacaccttc cgggtgtcc tacagtcctc aggactctac  
 541 tccctcagca gcgtagtac cgtgccctcc agcagcttgg gcacccagac ctacatctgc  
 601 aacgtgaatc acaagccag caacaccaag gtggacaaga aagttgagcc caaatcttgt

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LOCUS (LOC): AX232568 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232568  
 GenBank VERSION (VER): AX232568.1 GI:15592601  
 CAS REGISTRY NO. (RN): 391057-96-8  
 SEQUENCE LENGTH (SQL): 690  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 54 from Patent WO0162932.  
 SOURCE: human.  
 ORGANISM (ORGN): Homo sapiens  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
 Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;  
 Hominidae; Homo  
 NUCLEIC ACID COUNT (NA): 156 a 204 c 193 g 137 t  
 REFERENCE: 1 (bases 1 to 690)  
 AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 54 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..690	/organism="Homo sapiens" /db-xref="taxon:9606"
CDS	<1..>690	/note="unnamed protein product" /codon-start=1 /protein-id="CAC69724.1" /db-xref="GI:15592602" /translation="AEVQLVQSGAEVRKPGASVK VSKKASGYDFSNIYAIHWVRQAPGQ RLEWMGWINAGNGNTKFSQKFQGRITVTRDTAAS TAYMELRSLRSEDYAVYYCARDSS NMVRGIIIAIYFDYWGQGTLLVTVSSASTKGPSVF PLAPSSKSTSGGTAALGCLVKDYF PEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSS VVTVPSSSLGTQTYICNVNHKPSN TKVDKKVEPKSC"

SEQUENCE (SEQ):

1 gccgaggtcc agctggtgca gtctggggct gaggtgagga agcctggggc ctgagtgaag  
 61 gtttcttgca aggcttctgg atacgacttc agtaattatg ctatacattg ggtgcgccag  
 121 gcccccgac aaaggcttga gtggatggga tggatcaacg ctggcaatgg gaacacaaaa  
 181 ttttcacaga agttccaggg cagaatcacc gttaccaggg acacagccgc gagcacagcc  
 241 tacatggagc tgcgcagtct gagatctgaa gacacggctg tgtattactg tgcgagagat  
 301 tcctcaaata tggttcgggg aattattata gcgtactatt ttgactactg gggccagggc  
 361 accctggtca ccgtctcaag cgcctccacc aaggggcccat cggctctccc cctggcaccc  
 421 tcctccaaga gcacctctgg gggcacagcg gccctgggct gcctggtcaa ggactacttc  
 481 cccgaaccgg tgacggtgtc gtggaactca ggcgccctga ccagcggcgt ccacaccttc  
 541 ccggctgtcc tacagtcctc aggactctac tccctcagca gcgtagtac cgtgccctcc  
 601 agcagcttgg gcacccagac ctacatctgc aacgtgaatc acaagccag caacaccaag  
 661 gtggacaaga aagttgagcc caaatcttgt

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LOCUS (LOC): AX232566 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232566  
 GenBank VERSION (VER): AX232566.1 GI:15592599  
 CAS REGISTRY NO. (RN): 391057-95-7  
 SEQUENCE LENGTH (SQL): 690  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 52 from Patent WO0162932.



SOURCE: human.  
 ORGANISM (ORGN): Homo sapiens  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
 Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;  
 Hominidae; Homo

NUCLEIC ACID COUNT (NA): 156 a 205 c 192 g 137 t

REFERENCE: 1 (bases 1 to 690)  
 AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 52 30-AUG-2001; Amgen Inc. (US)

# FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..690	/organism="Homo sapiens"
		/db-xref="taxon:9606"
CDS	<1..>690	/note="unnamed protein product"
		/codon-start=1
		/protein-id="CAC69723.1"
		/db-xref="GI:15592600"
		/translation="AQVQLVQSGAEVRKPGASVK VSCKASGYDFSNYAIHWVRQAPGQ RLEWMGWINAGNGNTKFSQKFQGRITVTRDTAAS TAYMELRSLRSED TAVYYCARDSS NMVRGIIIIAYYFDYWGQGLVTVSSASTKGPSVF PLAPSSKSTSGGTAALGCLVKDYF PEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSS VVTVPSSSLGTQTYICNVNHKPSN TKVDKKVEPKSC"

# SEQUENCE (SEQ):

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121  gcccccgac aaaggcttga gtggatggga tggatcaacg ctggcaatgg gaacacaaaa
181  ttttcacaga agttccaggg cagaatcacc gttaccaggg acacagccgc gagcacagcc
241  tacatggagc tgcgcagtct gagatctgaa gacacggctg tgtattactg tgcgagagat
301  tcctcaaata tggttcgggg aattattata gcgtactatt ttgactactg gggccagggc
361  accctgggtca ccgtctcaag cgctccacc aaggggcccat cggtcttccc cctggcacc
421  tcctccaaga gcacctctgg gggcacagcg gccctgggct gcctgggtcaa ggactacttc
481  cccgaaccgg tgacgggtgtc gtggaactca ggcgccctga ccagcggcgt ccacaccttc
541  cgggctgtcc tacagtcttc aggactctac tccctcagca gcgtagtgc cgtgccctcc
601  agcagcttgg gcaccagac ctacatctgc aacgtgaatc acaagcccag caacaccaag
661  gtggacaaga aagttgagcc caaatcttgt

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L2 ANSWER 115 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232564 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232564  
 GenBank VERSION (VER): AX232564.1 GI:15592597  
 CAS REGISTRY NO. (RN): 391057-94-6  
 SEQUENCE LENGTH (SQL): 654  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 50 from Patent WO0162932.  
 SOURCE: human.  
 ORGANISM (ORGN): Homo sapiens  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
 Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;  
 Hominidae; Homo

NUCLEIC ACID COUNT (NA): 163 a 189 c 180 g 122 t

REFERENCE: 1 (bases 1 to 654)  
 AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 50 30-AUG-2001; Amgen Inc. (US)

# FEATURES (FEAT):

Feature Key	Location	Qualifier
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source      1..654                /organism="Homo sapiens"
                                   /db-xref="taxon:9606"
CDS          <1..>654            /note="unnamed protein product"
                                   /codon-start=1
                                   /protein-id="CAC69722.1"
                                   /db-xref="GI:15592598"
                                   /translation="SHSAQSVLTQPPSVSVSPGQ
TATITCSGDALPKQYVYWRQKPG
QAPLLVIYEDSERPSGIPERFSGSSSGTEVTL SI
SGVQAEDEADYYCQSTDSSSGTYV
V
FGGGTKLTVLSQPKAAPSVTLFPPSSEELQANKA
TLVCLISDFYPGAVTVAWKADSSP
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RSYSCQVTHEGSTVEKTVAPTECS "

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SEQUENCE (SEQ):

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1 tctcacagtg cacagtctgt gctgactcag ccaccctcgg tgtcagtgtc cccaggacag
61 acggccacga tcacctgctc tggagatgca ttgccaaagc aatatgttta ttggtaccgg
121 cagaagccag gccaggcccc tctattggtg atatatgaag acagtgagag gccctcaggg
181 atccctgaac gattctctgg ctccagttca gggactgaag tcacgttgag tatcagtgga
241 gtccaggcag aagacgaggc tgactattat tgtcaatcaa cagacagcag tgggacttat
301 gtcgtcttcg gcggaggggc caagctgacc gtcctaagtc agcccaaggc tgccccctcg
361 gtcactctgt tcccgccctc ctctgaggag cttcaagcca acaaggccac actggtgtgt
421 ctcataagtg acttctaccc gggagccgtg acagtggcct ggaaggcaga tagcagcccc
481 gtcaaggcgg gagtggagac caccacaccc tccaaacaaa gcaacaacaa gtacgcggcc
541 agcagctatc tgagcctgac gcctgagcag tggaagtccc acagaagcta cagctgccag
601 gtcacgcatg aaggggagcag cgtggagaag acagtggccc ctacagaatg ttca

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L2 ANSWER 116 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232562 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232562  
 GenBank VERSION (VER): AX232562.1 GI:15592595  
 CAS REGISTRY NO. (RN): 391057-93-5  
 SEQUENCE LENGTH (SQL): 645  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 48 from Patent WO0162932.  
 SOURCE: human.  
 ORGANISM (ORGN): Homo sapiens  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
 Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;  
 Hominidae; Homo

NUCLEIC ACID COUNT (NA): 163 a 182 c 171 g 129 t

REFERENCE: 1 (bases 1 to 645)  
 AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 48 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..645	/organism="Homo sapiens"
		/db-xref="taxon:9606"
CDS	<1..>645	/note="unnamed protein product"
		/codon-start=1
		/protein-id="CAC69721.1"
		/db-xref="GI:15592596"
		/translation="HSALEIVMTQSPGTL SLSPG ERATLSCRASQSVSSSLAWYQQK PGQAPRLLIYGASSRATGIPDRFSGSGSGTDFTL TISRLEPEDFAVYYCQYGAFGGG TKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCL LNNFYPREAKVQWKVDNALQSGNS QESVTEQDSKDSYSLSSLTLSKADYEKHKVYA CEVTHQGLNSPVTKSFNRGEC"

SEQUENCE (SEQ):

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1  cacagtgcac ttgaaattgt gatgacacag tctccaggca ccctgtcttt gtctccaggg
61  gaaagagcca ccctctcctg cagggccagt cagagtgtta gcagcagctc cttagcctgg
121 taccagcaga aacctggcca ggctcccagg ctctcatct atggtgcatc cagcagggcc
181 actggcatcc cagacagggt cagtggcagt gggctctggga cagacttcac tctcaccatc
241 agcagactgg agcctgaaga ttttgacagt tattactgtc agcagtatgg tgctttcggc
301 ggagggacca aggtggagat caaacgaact gtggctgcac catctgtctt catcttcccg
361 ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc
421 tatcccagag aggccaaagt acagtggaa gtaggataacg ccctccaatc gggtaactcc
481 caggagagtg tcacagagca ggacagcaag gacagcacct acagcctcag cagcaccctg
541 acgctgagca aagcagacta cgagaaacac aaagtctacg cctgcgaagt caccatcag
601 ggcctgaact cgcccgtcac aaagagcttc aacaggggag agtgt

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LOCUS (LOC): AX232560 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232560  
 GenBank VERSION (VER): AX232560.1 GI:15592593  
 CAS REGISTRY NO. (RN): 391057-92-4  
 SEQUENCE LENGTH (SQL): 645  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 46 from Patent WO0162932.  
 SOURCE: human.  
 ORGANISM (ORGN): Homo sapiens  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
 Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;  
 Hominidae; Homo  
 NUCLEIC ACID COUNT (NA): 163 a 188 c 162 g 132 t  
 REFERENCE: 1 (bases 1 to 645)  
 AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 46 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..645	/organism="Homo sapiens" /db-xref="taxon:9606"
CDS	<1..>645	/note="unnamed protein product" /codon-start=1 /protein-id="CAC69720.1" /db-xref="GI:15592594" /translation="SHSALEIVLTQSPATLSFSP GERATLSCRASQSVGSYLAWYQQR PGQAPRPLIYDATNRTGIPTFRSGSGSGTDFTL TISSLEPEDFATYYCQHRRTFGRG TKLEIKRTVAAPSVFIFPPSDEQLKSGTASVVCL LNNFYFPREAKVQWKVDNALQSGNS QESVTEQDSKDSSTLSSTLTLSKADYEKHKVYA CEVTHQGLSSPVTKSFNRGEC"

SEQUENCE (SEQ):

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1  tctcacagtg cacttgaat tgtgctgact cagtctccag ccaccctgtc tttttctccg
61  ggtgaaagag ccaccctctc ctgcagggcc agtcagagtg ttggcagcta cttagcctgg
121 taccagcaga gacctggcca ggctcccagg cccctcatct atgatgcaac caacagggcc
181 actggcatcc caaccagggt cagtggcagt gggctctggga cagacttcac tctcaccatc
241 agcagcctag agcctgaaga ttttgcaact tattactgtc aacaccgaag gacttttggc
301 cgggggacca agttggagat caaacgaact gtggctgcac catctgtctt catcttcccg
361 ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc
421 tatcccagag aggccaaagt acagtggaa gtaggataacg ccctccaatc gggtaactcc
481 caggagagtg tcacagagca ggacagcaag gacagcacct acagcctcag cagcaccctg
541 acgctgagca aagcagacta cgagaaacac aaagtctacg cctgcgaagt cactcatcag
601 ggcctgagct cgcccgtcac aaagagcttc aacaggggag agtgt

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LOCUS (LOC): AX232558 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232558  
 GenBank VERSION (VER): AX232558.1 GI:15592591

CAS REGISTRY NO. (RN): 391057-91-3  
 SEQUENCE LENGTH (SQL): 645  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 44 from Patent WO0162932.  
 SOURCE: human.  
 ORGANISM (ORGN): Homo sapiens  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
 Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;  
 Hominidae; Homo

NUCLEIC ACID COUNT (NA): 172 a 177 c 160 g 136 t  
 REFERENCE: 1 (bases 1 to 645)  
 AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 44 30-AUG-2001; Amgen Inc. (US)

# FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..645	/organism="Homo sapiens" /db-xref="taxon:9606"
CDS	<1..>645	/note="unnamed protein product" /codon-start=1 /protein-id="CAC69719.1" /db-xref="GI:15592592" /translation="SHSALEIVMTQSPSSLSASV GDRVITITCRASQSIISRYLNWYQLK PGKAPRLLIYGASSLQSGVPSRFSGSGSGAEFTL TISSLQPEDIATYYCQHTRAFGQG TKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCL LNNFYPREAKVQWKVDNALQSGNS QESATEQDSKDSYLSSTLTLSKADYEKHKVYA CEVTHQGLSSPVTKSFNRGEC"

# SEQUENCE (SEQ):

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1 tctcacagtg cacttgaaat tgtgatgacg cagtctccat cctccctgtc tgcgtctgtt
61 ggagacagag tcaccatcac ttgccgggca agtcagagca ttagcagata tttaaattgg
121 tatcagctta aaccagggaa agcccctagg ctccctgatct atgggtgcac cagtttgcaa
181 agtgagagtc catcaagggt cagtggcagt ggatctgggg cagagttcac tctcaccatc
241 agcagctctac aacctgaaga cattgccact tactactgtc aacacactcg ggcgttcggc
301 caagggacca aggttgaaat caagcgaact gtggctgcac catctgtctt catcttcccg
361 ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc
421 tatcccagag aggccaaagt acagtggaag gtggataacg cctccaatc gggtaactcc
481 caggagagtg ccacagagca ggacagcaag gacagcacct acagcctcag cagcaccctg
541 acgctgagca aagcagacta cgagaaacac aaagtctacg cctgcgaagt caccatcag
601 ggcctgagct cgcccgctac aaagagcttc aacaggggag agtgt

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LOCUS (LOC): AX232555 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232555  
 GenBank VERSION (VER): AX232555.1 GI:15592589  
 CAS REGISTRY NO. (RN): 357143-28-3  
 SEQUENCE LENGTH (SQL): 32  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 41 from Patent WO0162932.  
 SOURCE: human.  
 ORGANISM (ORGN): Homo sapiens  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
 Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;  
 Hominidae; Homo

NUCLEIC ACID COUNT (NA): 6 a 10 c 5 g 11 t  
 REFERENCE: 1 (bases 1 to 32)  
 AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 41 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..32	/organism="Homo sapiens"
		/db-xref="taxon:9606"
CDS	<20..>31	/note="unnamed protein product"
		/codon-start=1
		/protein-id="CAC69718.1"
		/db-xref="GI:15592590"
		/translation="TLSP"

SEQUENCE (SEQ):

1 ttggacgtc gacttattaa cactctcccc tg

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LOCUS (LOC): AX232553 GenBank (R)  
GenBank ACC. NO. (GBN): AX232553  
GenBank VERSION (VER): AX232553.1 GI:15592587  
CAS REGISTRY NO. (RN): 357143-27-2  
SEQUENCE LENGTH (SQL): 44  
MOLECULE TYPE (CI): DNA; linear  
DIVISION CODE (CI): Patent  
DATE (DATE): 11 Sep 2001  
DEFINITION (DEF): Sequence 39 from Patent WO0162932.  
SOURCE: human.  
ORGANISM (ORGN): Homo sapiens  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;  
Hominidae; Homo  
NUCLEIC ACID COUNT (NA): 11 a 6 c 15 g 12 t  
REFERENCE: 1 (bases 1 to 44)  
AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.  
TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*  
JOURNAL (SO): Patent: WO 0162932-A 39 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..44	/organism="Homo sapiens"
		/db-xref="taxon:9606"
CDS	<2..>43	/note="unnamed protein product"
		/codon-start=1
		/protein-id="CAC69717.1"
		/db-xref="GI:15592588"
		/translation="WLRGARCEIVMTQS"

SEQUENCE (SEQ):

1 gtggttgaga ggtgccagat gtgaaattgt gatgacacag tctc

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LOCUS (LOC): AX232551 GenBank (R)  
GenBank ACC. NO. (GBN): AX232551  
GenBank VERSION (VER): AX232551.1 GI:15592585  
CAS REGISTRY NO. (RN): 357143-26-1  
SEQUENCE LENGTH (SQL): 48  
MOLECULE TYPE (CI): DNA; linear  
DIVISION CODE (CI): Patent  
DATE (DATE): 11 Sep 2001  
DEFINITION (DEF): Sequence 37 from Patent WO0162932.  
SOURCE: human.  
ORGANISM (ORGN): Homo sapiens  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;  
Hominidae; Homo  
NUCLEIC ACID COUNT (NA): 6 a 13 c 16 g 13 t  
REFERENCE: 1 (bases 1 to 48)

AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 37 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..48	/organism="Homo sapiens" /db-xref="taxon:9606"
CDS	<3..>47	/note="unnamed protein product" /codon-start=1 /protein-id="CAC69716.1" /db-xref="GI:15592586" /translation="AQLLGLLLLWLRGAR"

SEQUENCE (SEQ):

1 ccgctcagct cctggggctc ctgctattgt ggttgagagg tgccagat

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LOCUS (LOC): AX232549 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232549  
 GenBank VERSION (VER): AX232549.1 GI:15592583  
 CAS REGISTRY NO. (RN): 357143-25-0  
 SEQUENCE LENGTH (SQL): 48  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 35 from Patent WO0162932.  
 SOURCE: human.  
 ORGANISM (ORGN): Homo sapiens  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
 Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;  
 Hominidae; Homo  
 NUCLEIC ACID COUNT (NA): 10 a 16 c 14 g 8 t  
 REFERENCE: 1 (bases 1 to 48)  
 AUTHOR (AU): Deshpande,R.V.; Hitz,A.; Boyle,W.J.; Sullivan,J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*  
 JOURNAL (SO): Patent: WO 0162932-A 35 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..48	/organism="Homo sapiens" /db-xref="taxon:9606"
CDS	17..>46	/note="unnamed protein product" /codon-start=1 /protein-id="CAC69715.1" /db-xref="GI:15592584" /translation="MDMRVPAQLL"

SEQUENCE (SEQ):

1 cagaagcttg accaccatgg acatgagggt ccccgctcag ctctctggg

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LOCUS (LOC): AX232547 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232547  
 GenBank VERSION (VER): AX232547.1 GI:15592582  
 CAS REGISTRY NO. (RN): 357143-24-9  
 SEQUENCE LENGTH (SQL): 30  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 33 from Patent WO0162932.  
 SOURCE: human.  
 ORGANISM (ORGN): Homo sapiens  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;

Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;  
Hominidae; Homo  
NUCLEIC ACID COUNT (NA): 7 a 5 c 14 g 4 t  
REFERENCE: 1 (bases 1 to 30)  
AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.  
TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*  
JOURNAL (SO): Patent: WO 0162932-A 33 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..30	/organism="Homo sapiens" /db-xref="taxon:9606"

SEQUENCE (SEQ):  
1 gtggaggcac tagagacggt gaccagggtg

L2 ANSWER 124 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232545 GenBank (R)  
GenBank ACC. NO. (GBN): AX232545  
GenBank VERSION (VER): AX232545.1 GI:15592580  
CAS REGISTRY NO. (RN): 357143-23-8  
SEQUENCE LENGTH (SQL): 42  
MOLECULE TYPE (CI): DNA; linear  
DIVISION CODE (CI): Patent  
DATE (DATE): 11 Sep 2001  
DEFINITION (DEF): Sequence 31 from Patent WO0162932.  
SOURCE: human.  
ORGANISM (ORGN): Homo sapiens  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;  
Hominidae; Homo  
NUCLEIC ACID COUNT (NA): 9 a 12 c 12 g 9 t  
REFERENCE: 1 (bases 1 to 42)  
AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.  
TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*  
JOURNAL (SO): Patent: WO 0162932-A 31 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):  

Feature Key	Location	Qualifier
source	1..42	/organism="Homo sapiens" /db-xref="taxon:9606"
CDS	<1..>42	/note="unnamed protein product" /codon-start=1 /protein-id="CAC69714.1" /db-xref="GI:15592581" /translation="SVTTGVHSQVQLVQ"

SEQUENCE (SEQ):  
1 tcagtaacga ctggtgtcca ctcacaggtc cagctggtgc ag

L2 ANSWER 125 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232542 GenBank (R)  
GenBank ACC. NO. (GBN): AX232542  
GenBank VERSION (VER): AX232542.1 GI:15592578  
CAS REGISTRY NO. (RN): 357143-22-7  
SEQUENCE LENGTH (SQL): 44  
MOLECULE TYPE (CI): DNA; linear  
DIVISION CODE (CI): Patent  
DATE (DATE): 11 Sep 2001  
DEFINITION (DEF): Sequence 28 from Patent WO0162932.  
SOURCE: human.  
ORGANISM (ORGN): Homo sapiens  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;

Hominidae; Homo

NUCLEIC ACID COUNT (NA): 6 a 12 c 10 g 16 t

REFERENCE: 1 (bases 1 to 44)

AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.

TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 28 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..44	/organism="Homo sapiens"
		/db-xref="taxon:9606"
CDS	<2..31	/note="unnamed protein product"
		/codon-start=1
		/protein-id="CAC69713.1"
		/db-xref="GI:15592579"
		/translation="AGSFSSSCQ"

SEQUENCE (SEQ):

1 agctgggtct ttctcttctt cctgtcagta acgactgggtg tcca

L2 ANSWER 126 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232540 GenBank (R)

GenBank ACC. NO. (GBN): AX232540

GenBank VERSION (VER): AX232540.1 GI:15592576

CAS REGISTRY NO. (RN): 357143-21-6

SEQUENCE LENGTH (SQL): 45

MOLECULE TYPE (CI): DNA; linear

DIVISION CODE (CI): Patent

DATE (DATE): 11 Sep 2001

DEFINITION (DEF): Sequence 26 from Patent WO0162932.

SOURCE: human.

ORGANISM (ORGN): Homo sapiens

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;  
Hominidae; Homo

NUCLEIC ACID COUNT (NA): 10 a 11 c 11 g 13 t

REFERENCE: 1 (bases 1 to 45)

AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.

TITLE (TI): Antagonistic selective binding agents of  
\*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 26 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..45	/organism="Homo sapiens"
		/db-xref="taxon:9606"
CDS	18..>44	/note="unnamed protein product"
		/codon-start=1
		/protein-id="CAC69712.1"
		/db-xref="GI:15592577"
		/translation="MEWSWVFLF"

SEQUENCE (SEQ):

1 cagaagctta gaccaccatg gaatggagct ggggtcttctt cttct

L2 ANSWER 127 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232537 GenBank (R)

GenBank ACC. NO. (GBN): AX232537

GenBank VERSION (VER): AX232537.1 GI:15592575

CAS REGISTRY NO. (RN): 383240-49-1

SEQUENCE LENGTH (SQL): 24

MOLECULE TYPE (CI): DNA; linear

DIVISION CODE (CI): Patent

DATE (DATE): 11 Sep 2001

DEFINITION (DEF): Sequence 23 from Patent WO0162932.



SOURCE: human.  
 ORGANISM (ORGN): Homo sapiens  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
 Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;  
 Hominidae; Homo

NUCLEIC ACID COUNT (NA): 3 a 5 c 5 g 11 t  
 REFERENCE: 1 (bases 1 to 24)  
 AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 23 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..24	/organism="Homo sapiens" /db-xref="taxon:9606"

SEQUENCE (SEQ):  
 1 ttgtcgtct ttccagacgt tagt

L2 ANSWER 128 OF 128 GENBANK.RTM. COPYRIGHT 2005 on STN

LOCUS (LOC): AX232536 GenBank (R)  
 GenBank ACC. NO. (GBN): AX232536  
 GenBank VERSION (VER): AX232536.1 GI:15592574  
 CAS REGISTRY NO. (RN): 357143-20-5  
 SEQUENCE LENGTH (SQL): 18  
 MOLECULE TYPE (CI): DNA; linear  
 DIVISION CODE (CI): Patent  
 DATE (DATE): 11 Sep 2001  
 DEFINITION (DEF): Sequence 22 from Patent WO0162932.  
 SOURCE: human.  
 ORGANISM (ORGN): Homo sapiens  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
 Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;  
 Hominidae; Homo

NUCLEIC ACID COUNT (NA): 3 a 6 c 3 g 6 t  
 REFERENCE: 1 (bases 1 to 18)  
 AUTHOR (AU): Deshpande, R.V.; Hitz, A.; Boyle, W.J.; Sullivan, J.K.  
 TITLE (TI): Antagonistic selective binding agents of  
 \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
 \*\*\*protein\*\*\*

JOURNAL (SO): Patent: WO 0162932-A 22 30-AUG-2001; Amgen Inc. (US)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..18	/organism="Homo sapiens" /db-xref="taxon:9606"

SEQUENCE (SEQ):  
 1 ccgactttgc acctagtt

=> S L2 AND antibody  
 22 FILES SEARCHED...  
 36 FILES SEARCHED...  
 62 FILES SEARCHED...

L3 21 L2 AND ANTIBODY

=> D L3 1-21

L3 ANSWER 1 OF 21 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN  
 AN 2002-00826 BIOTECHDS  
 TI \*\*\*Antibodies\*\*\* that bind antagonistically to osteoprotein binding,  
 useful for treating osteoporosis, metastasis of cancer to bone, rheumatoid  
 arthritis, hypercalcemia of malignancy and steroid osteoporosis;  
 monoclonal \*\*\*antibody\*\*\* and humanized \*\*\*antibody\*\*\*, vector  
 expression in CHO cell  
 AU Deshpande R V; Hitz A; Boyle W J; Sullivan J K

PA Amgen  
LO Thounsand Oaks, CA, USA.  
PI WO 2001062932 30 Aug 2001  
AI WO 2001-US5973 23 Feb 2001  
PRAI US 2001-791153 22 Mar 2001; US 2000-511139 23 Feb 2000  
DT Patent  
LA English  
OS WPI: 2001-557706 [62]

L3 ANSWER 2 OF 21 BIOTECHNO COPYRIGHT 2005 Elsevier Science B.V. on STN  
AN 2002:34223904 BIOTECHNO  
TI Antagonistic selective binding agents of \*\*\*osteoprotegerin\*\*\*  
\*\*\*binding\*\*\* \*\*\*protein\*\*\*  
SO Expert Opinion on Therapeutic Patents, (2002), 12/3 (469-470), 5  
reference(s)  
CODEN: EOTPEG ISSN: 1354-3776  
DT Journal; Article  
CY United Kingdom  
LA English  
SL English

L3 ANSWER 3 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2003:435069 CAPLUS  
DN 139:35078  
TI Selective binding agents of \*\*\*osteoprotegerin\*\*\* \*\*\*binding\*\*\*  
\*\*\*protein\*\*\* (OPGbp), such as antagonist \*\*\*antibodies\*\*\*, for use  
in the treatment of bone disorders  
IN Deshpande, Rajendra V.; Hitz, Anna; Boyle, William James; Sullivan, John  
K.  
PA Amgen Inc., USA  
SO U.S. Pat. Appl. Publ., 123 pp., Cont.-in-part of U.S. Ser. No. 511,139,  
abandoned.  
CODEN: USXXCO

DT Patent  
LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003103978	A1	20030605	US 2001-791153	20010222
	CA 2400929	AA	20010830	CA 2001-2400929	20010223
	WO 2001062932	A1	20010830	WO 2001-US5973	20010223
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	EP 1257648	A1	20021120	EP 2001-911158	20010223
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
	JP 2003523772	T2	20030812	JP 2001-562706	20010223
PRAI	US 2000-511139	B2	20000223		
	US 2001-791153	A	20010222		
	WO 2001-US5973	W	20010223		

L3 ANSWER 4 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1998:712352 CAPLUS  
DN 129:328897  
TI A protein binding osteoprotegerin playing a role in osteoclast maturation  
for use in the treatment of bone loss  
IN Boyle, William J.  
PA Amgen Inc., USA  
SO PCT Int. Appl., 108 pp.  
CODEN: PIXXD2  
DT Patent  
LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----

PI WO 9846751 A1 19981022 WO 1998-US7584 19980415  
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,  
DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG,  
KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX,  
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT,  
UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,  
FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,  
CM, GA, GN, ML, MR, NE, SN, TD, TG  
US 5843678 A 19981201 US 1997-842842 19970416  
US 6316408 B1 20011113 US 1998-52521 19980330  
CA 2285746 AA 19981022 CA 1998-2285746 19980415  
AU 9871205 A1 19981111 AU 1998-71205 19980415  
AU 743257 B2 20020124  
EP 975754 A1 20000202 EP 1998-918244 19980415  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO  
BR 9808545 A 20000523 BR 1998-8545 19980415  
EE 9900611 A 20000815 EE 1999-611 19980415  
JP 2001526532 T2 20011218 JP 1998-544257 19980415  
NZ 500253 A 20020927 NZ 1998-500253 19980415  
ZA 9803189 A 19981016 ZA 1998-3189 19980416  
US 2003104485 A1 20030605 US 1998-79569 19980514  
MX 9909387 A 20000630 MX 1999-9387 19991013  
NO 9905044 A 19991215 NO 1999-5044 19991015  
AU 2001095234 A5 20020124 AU 2001-95234 20011130  
PRAI US 1997-842842 A 19970416  
US 1997-880855 A2 19970623  
US 1998-52521 A 19980330  
AU 1998-71205 A3 19980415  
WO 1998-US7584 W 19980415  
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 5 OF 21 IFIPAT COPYRIGHT 2005 IFI on STN  
AN 10764698 IFIPAT;IFIUDB;IFICDB  
TI \*\*\*OSTEOPROTEGERIN\*\*\* \*\*\*BINDING\*\*\* \*\*\*PROTEINS\*\*\* AND  
RECEPTORS  
IN Boyle William J  
PA Amgen Inc (12117)  
PI US 2005003400 A1 20050106  
AI US 2004-825898 20040415  
RLI US 1998-52521 19980330 CONTINUATION 6316408  
US 2000-721212 20001121 CONTINUATION ABANDONED  
US 1997-842842 19970416 CONTINUATION-IN-PART 5843678  
US 1997-880855 19970623 CONTINUATION-IN-PART ABANDONED  
FI US 2005003400 20050106  
US 6316408  
US 5843678  
DT Utility; Patent Application - First Publication  
FS CHEMICAL  
APPLICATION  
CLMN 15

L3 ANSWER 6 OF 21 IFIPAT COPYRIGHT 2005 IFI on STN  
AN 10360068 IFIPAT;IFIUDB;IFICDB  
TI \*\*\*ANTIBODIES\*\*\* SPECIFIC FOR \*\*\*OSTEOPROTEGERIN\*\*\*  
\*\*\*BINDING\*\*\* \*\*\*PROTEINS\*\*\* AND METHOD OF USE; NUCLEOTIDE  
SEQUENCES CODING POLYPEPTIDE FOR USE IN TREATMENT OF BONE DISORDERS  
IN BOYLE WILLIAM J  
PA Unassigned Or Assigned To Individual (68000)  
PI US 2003104485 A1 20030605  
AI US 1998-79569 19980514  
RLI US 1997-842842 19970416 DIVISION 5843678  
FI US 2003104485 20030605  
US 5843678  
DT Utility; Patent Application - First Publication  
FS CHEMICAL  
APPLICATION  
CLMN 33  
GI 3 Figure(s).

FIG. 1. Structure and sequence of the 32D-F3 insert encoding OPG binding

protein. Predicted transmembrane domain and sites for asparagine-linked carbohydrate chains are underlined.

FIG. 2. OPG binding protein expression in COS-7 cells transfected with pcdNA/32I)-F3. Cells were lipofected with pcdNA/32D-F3 DNA, the assayed for binding to either goat antihuman IgG1 alkaline phosphatase conjugate (secondary alone), human OPG(22-201)-Fc plus secondary (OPG-Fc), or a chimeric ATAR extracellular domain-Fc fusion protein (sATAR-Fc). ATAR is a new member of the TNFR superfamily, and the sATAR-Fc fusion protein serves as a control for both human IgG1 Fc domain binding, and generic TNFR related protein, binding to 32D cell surface molecules.

FIG. 3. Expression of OPG binding protein in human tissues. Northern blot analysis of human tissue mRNA (Clontech) using a radiolabeled 32D-F3 derived hybridization probe. Relative molecular mass is indicated at the left in kilobase pairs (kb). Arrowhead on right side indicates the migration of an approximately 2.5 kb transcript detected in lymph node mRNA. A very faint band of the same mass is also detected in fetal liver.

L3 ANSWER 7 OF 21 IFIPAT COPYRIGHT 2005 IFI on STN  
AN 10356071 IFIPAT;IFIUDB;IFICDB  
TI \*\*\*OSTEOPROTEGERIN\*\*\* \*\*\*BINDING\*\*\* \*\*\*PROTEINS\*\*\* ; FOR  
THERAPY OF BONE DISEASES, SUCH AS OSTEOPOROSIS, BONE LOSS FROM ARTHRITIS,  
PAGET'S DISEASE, AND HYPERCALCEMIA  
IN BOYLE WILLIAM J  
PA Unassigned Or Assigned To Individual (68000)  
PI US 2003100488 A1 20030529  
AI US 1998-211297 19981214  
RLI US 1997-880855 19970623 CONTINUATION  
US 1997-842842 19970416 CONTINUATION-IN-PART 5843678  
FI US 2003100488 20030529  
US 5843678  
DT Utility; Patent Application - First Publication  
FS CHEMICAL  
APPLICATION  
CLMN 36  
GI 9 Figure(s).

FIG. 1. Structure and sequence of the 32D-F3 insert encoding OPG binding protein. Predicted transmembrane domain and sites for asparagine-linked carbohydrate chains are underlined.

FIG. 2. OPG binding protein expression in COS-7 cells transfected with pcdNA/32D-F3. Cells were lipofected with pcdNA/ 32D-F3 DNA, the assayed for binding to either goat anti-human IgG1 alkaline phosphatase conjugate (secondary alone), human OPG(22-201)-Fc plus secondary (OPG-Fc), or a chimeric ATAR extracellular domain-Fc fusion protein (sATAR-Fc). ATAR is a new member of the TNFR superfamily, and the sATAR-Fc fusion protein serves as a control for both human IgG1 Fc domain binding, and generic TNFR related protein, binding to 32D cell surface molecules.

FIG. 3. Expression of OPG binding protein in human tissues. Northern blot analysis of human tissue mRNA (Clontech) using a radiolabeled 32D-F3 derived hybridization probe. Relative molecular mass is indicated at the left in kilobase pairs (kb). Arrowhead on right side indicates the migration of an approximately 2.5 kb transcript detected in lymph node mRNA. A very faint band of the same mass is also detected in fetal liver.

FIG. 4. Structure and sequence of the pcdNA/hu OPGbp 1.1 insert encoding the human OPG binding protein. The predicted transmembrane domain and site for asparagine-linked carbohydrate chains are underlined.

FIG. 5. Stimulation of osteoclast development in vitro from bone marrow macrophage and ST2 cell cocultures treated with recombinant murine OPG binding protein (158-316). Cultures were treated with varying concentrations of murine OPG binding protein ranging from 1.6 to 500 ng/ml. After 8-10 days, cultures were lysed, and TRAP activity was measured by solution assay. In addition, some cultures were simultaneously treated with 1, 10, 100, 500, and 1000 ng/ml of recombinant murine OPG (22-401)-Fc protein. Murine OPG binding protein induces a dosedependent stimulation in osteoclast formation, whereas OPG (22401)-Fc inhibits osteoclast formation.

FIG. 6. Stimulation of osteoclast development from bone marrow precursors in vitro in the presence of M-CSF and murine OPG binding protein (158-316). Mouse bone marrow was harvested, and cultured in the presence 250, 500, 1000, and 2000 U/ml of M-CSF. Varying concentrations of OPG binding protein (158-316), ranging from 1.6 to 500 ng/ml, were added to these same cultures. Osteoclast development was measured by TRAP solution assay.

FIG. 7. Osteoclasts derived from bone marrow cells in the presence of both M-CSF and OPG binding protein (158-316) resorb bone in vitro. Bone marrow cells treated with either M-CSF, OPG binding protein, or with both factors combined, were plated onto bone slices in culture wells, and were allowed to develop into mature osteoclasts. The resulting cultures were then stained with Toluidine Blue (left column), or histochemically to detect TRAP enzyme activity (right column). In cultures receiving both factors, mature osteoclasts were formed that were capable of eroding bone as judged by the presence of blue stained pits on the bone surface. This correlated with the presence of multiple large, multinucleated, TRAP positive cells.

FIG. 8. Graph showing the whole blood ionized calcium (iCa) levels from mice injected with OPG binding protein, 51 hours after the first injection, and in mice also receiving concurrent OPG administration. OPG binding protein significantly and dose dependently increased iCa levels. OPG (1 mg/kg/day) completely blocked the increase in iCa at a dose of OPG binding protein of 5 ug/day, and partially blocked the increase at a dose of OPG binding protein of 25 ug/day. (\*), different to vehicle treated control (p less-than 0.05). (#), OPG treated iCa level significantly different to level in mice receiving that dose of OPG binding protein alone (p less-than 0.05).

FIG. 9. Radiographs of the left femur and tibia in mice treated with 0, 5, 25 or 100 ug/day of OPG binding protein for 3.5 days. There is a dose dependent decrease in bone density evident most clearly in the proximal tibial metaphysis of these mice, and that is profound at a dose of 100 ug/day.

L3 ANSWER 8 OF 21 USPATFULL on STN  
 AN 2005:81108 USPATFULL  
 TI Targeted ligands  
 IN Herman, William, Thornhill, CANADA  
 PI US 2005069549 A1 20050331  
 AI US 2004-501453 A1 20041122 (10)  
 WO 2003-CA44 20030114  
 PRAI CA 2002-2368708 20020114  
 WO 2002-CA317 20020311  
 CA 2002-2397169 20020813  
 CA 2002-2402930 20020919  
 DT Utility  
 FS APPLICATION  
 LN.CNT 9273  
 INCL INCLM: 424/178.100  
 NCL NCLM: 424/178.100  
 IC [7]  
 ICM: A61K039-395

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 9 OF 21 USPATFULL on STN  
 AN 2004:203879 USPATFULL  
 TI Rank-ligand-induced sodium/proton antiporter polypeptides  
 IN Bird, Timothy A., Bainbridge, WA, UNITED STATES  
 Tometsko, Mark E., Seattle, WA, UNITED STATES  
 Dougall, William C., Seattle, WA, UNITED STATES  
 Mosley, Bruce A., Seattle, WA, UNITED STATES  
 PI US 2004157771 A1 20040812  
 AI US 2003-372613 A1 20030221 (10)  
 PRAI US 2002-361891P 20020228 (60)  
 DT Utility  
 FS APPLICATION  
 LN.CNT 5274  
 INCL INCLM: 514/012.000  
 INCLS: 530/350.000; 435/069.100; 435/320.100; 435/325.000; 536/023.500  
 NCL NCLM: 514/012.000  
 NCLS: 530/350.000; 435/069.100; 435/320.100; 435/325.000; 536/023.500  
 IC [7]  
 ICM: A61K038-17  
 ICS: C07K014-705; C07H021-04

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 10 OF 21 USPATFULL on STN  
 AN 2003:277129 USPATFULL  
 TI Peptides and related molecules that bind to TALL-1

IN Min, Hosung, Newbury Park, CA, UNITED STATES  
Hsu, Hailing, Moorpark, CA, UNITED STATES  
Xiong, Fei, Thousand Oaks, CA, UNITED STATES

PA Amgen Inc. (U.S. corporation)  
PI US 2003195156 A1 20031016  
AI US 2002-145206 A1 20020513 (10)  
PRAI US 2001-290196P 20010511 (60)

DT Utility  
FS APPLICATION

LN.CNT 2728

INCL INCLM: 514/014.000

INCLS: 514/015.000

NCL NCLM: 514/014.000

NCLS: 514/015.000

IC [7]

ICM: A61K038-10

ICS: A61K038-08

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 11 OF 21 USPATFULL on STN

AN 2003:146245 USPATFULL

TI TALL-1 receptor molecules and uses thereof

IN Hsu, Hailing, Moorpark, CA, UNITED STATES

PA Amgen Inc. A Corporation of the State of Delaware (U.S. corporation)

PI US 2003099990 A1 20030529

AI US 2002-251947 A1 20020920 (10)

PRAI US 2001-324238P 20010921 (60)

DT Utility

FS APPLICATION

LN.CNT 4507

INCL INCLM: 435/006.000

INCLS: 435/007.200; 435/069.100; 435/320.100; 435/325.000; 530/350.000;

536/023.500

NCL NCLM: 435/006.000

NCLS: 435/007.200; 435/069.100; 435/320.100; 435/325.000; 530/350.000;

536/023.500

IC [7]

ICM: C12Q001-68

ICS: G01N033-53; G01N033-567; C07H021-04; C12P021-02; C12N005-06;

C07K014-705

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 12 OF 21 USPATFULL on STN

AN 2003:57548 USPATFULL

TI Composition and methods for the production of biological tissues and  
tissue constructs

IN Mizuno, Shuichi, Brookline, MA, UNITED STATES

Tokuno, Toshimasa, Tokyo, JAPAN

Berlowitz Tarrant, Laurence J., Easthampton, MA, UNITED STATES

PA Histogenics Corporation, Easthampton, MA (U.S. corporation)

PI US 2003040113 A1 20030227

AI US 2002-104677 A1 20020322 (10)

PRAI US 2001-278534P 20010323 (60)

US 2002-352085P 20020124 (60)

DT Utility

FS APPLICATION

LN.CNT 1569

INCL INCLM: 435/395.000

NCL NCLM: 435/395.000

IC [7]

ICM: C12N005-02

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 13 OF 21 USPATFULL on STN

AN 2003:29843 USPATFULL

TI Use of rank antagonists to treat cancer

IN Dougall, William C., Seattle, WA, UNITED STATES

PI US 2003021785 A1 20030130

AI US 2002-166232 A1 20020605 (10)

PRAI US 2001-296670P 20010606 (60)

DT Utility

FS APPLICATION

LN.CNT 1870  
INCL INCLM: 424/146.100  
INCLS: 514/012.000; 514/044.000  
NCL NCLM: 424/146.100  
NCLS: 514/012.000; 514/044.000  
IC [7]  
ICM: A61K048-00  
ICS: A61K038-17; A61K039-395  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 14 OF 21 USPATFULL on STN  
AN 2003:23315 USPATFULL  
TI Therapeutic use of rank antagonists  
IN Dougall, William C., Seattle, WA, UNITED STATES  
Anderson, Dirk M., Seattle, WA, UNITED STATES  
PI US 2003017151 A1 20030123  
AI US 2002-151071 A1 20020517 (10)  
PRAI US 2001-291919P 20010517 (60)  
DT Utility  
FS APPLICATION  
LN.CNT 2176  
INCL INCLM: 424/143.100  
INCLS: 514/044.000  
NCL NCLM: 424/143.100  
NCLS: 514/044.000  
IC [7]  
ICM: A61K048-00  
ICS: A61K039-395  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 15 OF 21 USPATFULL on STN  
AN 2003:17899 USPATFULL  
TI Stimulation of osteogenesis using rank ligand fusion proteins  
IN Lam, Jonathan, West Memphis, AR, UNITED STATES  
Ross, F. Patrick, Olivette, MO, UNITED STATES  
Teitelbaum, Steven L., University City, MO, UNITED STATES  
PA Barnes-Jewish Hospital (2)  
PI US 2003013651 A1 20030116  
AI US 2002-105057 A1 20020322 (10)  
PRAI US 2001-277855P 20010322 (60)  
US 2001-311163P 20010809 (60)  
US 2001-329231P 20011012 (60)  
US 2001-328876P 20011012 (60)  
US 2001-329393P 20011015 (60)  
DT Utility  
FS APPLICATION  
LN.CNT 1942  
INCL INCLM: 514/012.000  
NCL NCLM: 514/012.000  
IC [7]  
ICM: A61K038-17  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 16 OF 21 USPATFULL on STN  
AN 2002:287553 USPATFULL  
TI Receptor from TNF family  
IN Boyle, William J., Moorpark, CA, UNITED STATES  
Hsu, Hailing, Moorpark, CA, UNITED STATES  
PI US 2002160416 A1 20021031  
AI US 2001-779050 A1 20010212 (9)  
PRAI US 2000-181800P 20000211 (60)  
DT Utility  
FS APPLICATION  
LN.CNT 2856  
INCL INCLM: 435/007.100  
INCLS: 530/389.100; 530/395.000; 536/053.000  
NCL NCLM: 435/007.100  
NCLS: 530/389.100; 530/395.000; 536/053.000  
IC [7]  
ICM: G01N033-53  
ICS: C07K016-46; C08B037-00  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 17 OF 21 USPATFULL on STN  
AN 2002:272856 USPATFULL  
TI TNF receptor-like molecules and uses thereof  
IN Theill, Lars Eyde, Thousand Oaks, CA, UNITED STATES  
Yeh, Richard, Ithaca, NY, UNITED STATES  
Silbiger, Scott Michael, Woodland Hills, CA, UNITED STATES  
Yu, Gang, Thousand Oaks, CA, UNITED STATES  
Senaldi, Giorgio, Thousand Oaks, CA, UNITED STATES  
PI US 2002150977 A1 20021017  
AI US 2001-948018 A1 20010905 (9)  
PRAI US 2000-230191P 20000905 (60)  
DT Utility  
FS APPLICATION  
LN.CNT 5781  
INCL INCLM: 435/069.100  
INCLS: 435/325.000; 435/320.100; 530/350.000; 536/023.500; 435/194.000  
NCL NCLM: 435/069.100  
NCLS: 435/325.000; 435/320.100; 530/350.000; 536/023.500; 435/194.000  
IC [7]  
ICM: C12P021-02  
ICS: C12N005-06; C07H021-04; C12N009-12  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 18 OF 21 USPATFULL on STN  
AN 2002:164694 USPATFULL  
TI Screening assays for agonists and antagonists of receptor activator of  
NF-kappa B  
IN Dougall, William C., Seattle, WA, UNITED STATES  
PI US 2002086312 A1 20020704  
US 6884598 B2 20050426  
AI US 2001-957944 A1 20010920 (9)  
PRAI US 2000-235157P 20000922 (60)  
DT Utility  
FS APPLICATION  
LN.CNT 3029  
INCL INCLM: 435/006.000  
INCLS: 435/007.210  
NCL NCLM: 435/008.000  
NCLS: 435/007.100; 435/007.200; 530/350.000; 536/023.500  
IC [7]  
ICM: C12Q001-68  
ICS: G01N033-567  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 19 OF 21 USPATFULL on STN  
AN 2002:164405 USPATFULL  
TI Methods and compositions of matter concerning APRIL/G70, BCMA,  
BLYS/AGP-3, and TACI  
IN Theill, Lars Eyde, Thousand Oaks, CA, UNITED STATES  
Yu, Gang, Thousand Oaks, CA, UNITED STATES  
PI US 2002086018 A1 20020704  
AI US 2001-855158 A1 20010514 (9)  
PRAI US 2000-204039P 20000512 (60)  
US 2000-214591P 20000627 (60)  
DT Utility  
FS APPLICATION  
LN.CNT 1973  
INCL INCLM: 424/146.100  
INCLS: 424/153.100  
NCL NCLM: 424/146.100  
NCLS: 424/153.100  
IC [7]  
ICM: A61K039-395  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 20 OF 21 USPATFULL on STN  
AN 2002:156701 USPATFULL  
TI Methods and compositions of matter concerning APRIL/G70, BCMA,  
BLYS/AGP-3 and TACI  
IN Theill, Lars Eyde, Thousand Oaks, CA, UNITED STATES  
Yu, Gang, Thousand Oaks, CA, UNITED STATES



PI US 2002081296 A1 20020627  
US 6774106 B2 20040810  
AI US 2001-854864 A1 20010514 (9)  
PRAI US 2000-204039P 20000512 (60)  
US 2000-214591P 20000627 (60)

DT Utility

FS APPLICATION

LN.CNT 2383

INCL INCLM: 424/144.100

INCLS: 424/155.100

NCL NCLM: 514/012.000

NCLS: 424/185.100; 424/192.100

IC [7]

ICM: A61K039-395

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 21 OF 21 USPATFULL on STN

AN 2001:14213 USPATFULL

TI Method for diagnosing and treating chronic pelvic pain syndrome

IN Alexander, Richard B., Ellicott City, MD, United States

Ponniah, Sathibalan, Ellicott City, MD, United States

PA University of Maryland, Baltimore, Baltimore, MD, United States (U.S.  
corporation)

PI US 6180355 B1 20010130

AI US 1999-306927 19990507 (9)

PRAI US 1998-84668P 19980507 (60)

DT Utility

FS Granted

LN.CNT 3501

INCL INCLM: 435/007.100

INCLS: 435/007.800

NCL NCLM: 435/007.100

NCLS: 435/007.800

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EXF 435/7.1; 435/7.8; 435/7.92; 435/7.94; 424/1.41; 424/145.1; 424/158.1;  
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CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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